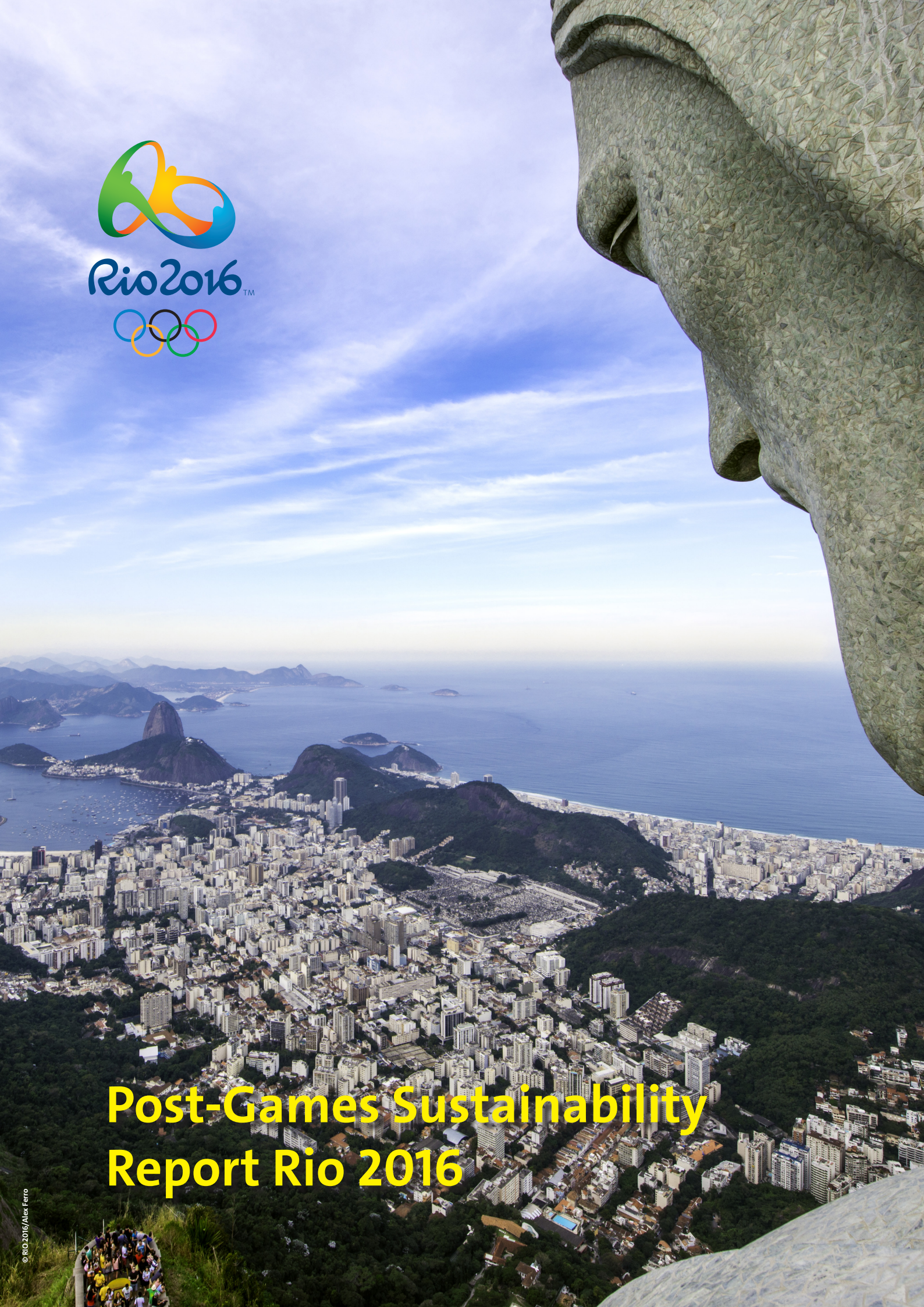

Post-Games Sustainability Report Rio 2016

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THE CONTENTS OF THIS REPORT WERE PRODUCED IN ACCORDANCE WITH THE FOLLOWING PARAMETERS:

1. CORE OPTION "IN ACCORDANCE" WITH THE G4 DIRECTIVES OF THE GLOBAL REPORTING INITIATIVE (GRI) AND THE EVENT ORGANIZERS SECTOR SUPPLEMENT

2. PRINCIPLES OF THE GLOBAL COMPACT (UN)

LETTER FROM THE PRESIDENT

The Rio de Janeiro Olympic and Paralympic Games were unforgettable. We strived to and succeeded in staging an excellent Games, with a Brazilian touch.

From inception to delivery, sustainability was ingrained in the DNA of the Rio 2016 Games. Abraça - the Sustainability, Accessibility and Legacy Programme – considered three strategic pillars: the planet, people and prosperity.

Its primary lines of action included promoting high standards of environmental responsibility in Games organisation, raising public awareness about important issues, such as diversity, accessibility and inclusion, as well as driving the formation of a qualified supply chain and a transparent management model. At all these stages, it maintained open channels of dialogue with society.

For the first time in Olympic history, the opening ceremony conveyed to the world a strong and hopeful message about the environment.

Rio 2016 embraced the cause of transforming the impact of holding the Games into an opportunity for adopting and spreading more sustainable practices. This report presents the results of this work, of which I can highlight the following achievements:

- 16,000 (state and private) schools participated in the education programme *Transforma*, which took new sports and teaching materials to the public-school network
- 83 per cent (by value) of the goods and services purchased were procured from Brazilian companies
- 44 hectares of native vegetation were planted on the golf course
- 7.3 hectares of natural vegetation were restored in the Olympic Park
- 49 hectares of green area were open to the local community for leisure, bringing benefits to 1.14 million people.
- The Future Arena will be disassembled and reused in the construction of four state schools across the city
- Public transport: more than 60 per cent of public transport on high-capacity lines (compared to 18 per cent in 2009)
- Sanitation: 10 new sewage treatment plants and 2,100km of sewers in the west of Rio de Janeiro
- Over two million tonnes of CO2 offset in innovative projects that leave a low carbon legacy for important sectors of the Brazilian economy
- 100 per cent of the wooden furniture and fittings were of legal and sustainable origin
- For each R$1 (Brazilian real) invested in sports facilities, another R$5 were invested in legacy projects, which contributed towards improving the quality of life of the Rio de Janeiro population
- 33 recycling cooperatives participated in the Games waste management, recycling a total of x tonnes.
- Over 50,000 volunteers recruited and trained

Carlos Nuzman
Presidente do Comitê Organizador dos Jogos Olímpicos e Paralímpicos Rio 2016

1 Rio 2016 Olympic and Paralympic Games

INTRODUCTION [G4-3] [G4-28]

This report encompasses the work of the Rio 2016 Organising Committee for the Olympic and Paralympic Games, highlighting the operational period of the Games, from August-September 2016. It has been prepared in accordance with the Global Reporting Initiative (GRI), version 4, and its Event Organiser Sector Supplement (EOSS). Furthermore, we have included the Global Compact Communication on Engagement requirements (COE).

Our aim with this report is to present the vital numbers from the Games, while keeping in line with the content and structure of previous reports. In September 2014, we published a sustainability report. In July 2016, we published the Pre-Games Integrated Report. This publication is the result of our commitment to transparent and consistent communication. We believe that by publishing this document we are helping encourage the common practice of disclosing sustainability reports for events, as well as serving as a source of knowledge.

FOR THE FIRST TIME AT THE GAMES			
Inclusion of the struggle against climate change as a theme in the opening ceremony, with the engagement of athletes	The participation of a refugee team	The creation of an animal management programme	The recruitment, training and hiring of 50 professionals with an intellectual deficiency
OUR RESULTS			
79% of the area of the sports facilities already existed (in m2)	2.2 million tonnes of carbon offset, exceeding direct emissions from the Games	Sustainable innovation in all medals	Measures taken for child and teenager protection, in partnership with UNICEF
70 tonnes of sustainably caught fish served at the Games, and partnership with ASC and MSC for the development of sustainable fishing in Rio de Janeiro state	100% of new timber products certified through a partnership with the FSC	Sailing and rowing competitions held in suitable waters (in accordance with World Health Organisation standards for recreational waters)	Development of the educational programme Transforma, which took the Olympic and Paralympic values to over 16,000 schools
Restoration of 7.3 hectares of vegetation in the Barra Olympic Park region	Transformation of Deodoro X-Park into a green leisure area for 1.14 million local residents	Restoration of 44 hectares of degraded land with the Olympic Golf Course	Accessibility verified in over 65 hotels in the vicinity of the competition areas

Direct contracting of over 2,200 small and medium-sized companies	Mobilisation of 33 local recycling cooperatives, generating direct benefits for 240 low-income families	Incentive for sustainable tourism, in partnership with PNUMA	100% of suppliers signed the Code of Sustainable Conduct

Rio 2016 is a private, not-for-profit sports organisation that was formed in April 2010 by the Brazilian Olympic Confederations, the Brazilian Olympic Committee (COB) and Brazilian Paralympic Committee (CPB) with the mission of promoting, organizing and carrying out the Rio 2016 Olympic and Paralympic Games. As a result of our work the athletes were met in Rio by suitable conditions for competing and excelling, and the spectators enjoyed a once-in-a-lifetime experience. The operations required for the preparation and delivery of the Games were incredible. Over 150,000 people were directly involved in its organisation, including more than 50,000 volunteers. Billions of people across the globe were inspired by the Games. 10,500 athletes from 206 nations came to Rio in August 2016 to compete in 42 disciplines, as well as media professionals, sports fans and tourists. And in September 2016, Rio welcomed 4,350 Paralympic athletes from 176 nations, who competed in 23 disciplines and transformed the way we see people with an impairment.

PARALYMPIC GAMES

4,333 ATHLETES
Almost half are women

160 DELEGATIONS

159 COUNTRIES
+IPA (Independent Paralympic Athletes)

Rio 2016 had less than seven years to raise all necessary funds from private sources, to employ the best possible team, to deliver all required services on a tight budget, to procure goods and services worth billions of reais and mobilise 50,000 volunteers, as well as maintain the approval rating of the Games amongst Brazilians at the 60 per cent mark. To ensure transparency and responsibility over the course of this journey our teams worked according to a certified management system.

The most important event sustainability management system is ISO 20121, which certification we received six months before the Games. A rigorous independent audit ensured that Rio 2016 was ruled by the principles defined by ISO 20121 for event sustainability management systems, which are as follows:

RESPONSIBILITY: we took the care to conduct all our activities with social, environmental and economic responsibility. In other words, we sought a balance between economic common sense, the reduction of negative environmental impact and the promotion of social benefits in all decisions we took.

INCLUSION: we established a respectful relationship between all partiesinvolved, regardless of race, sex, age, colour, religion, sexual orientation, culture, nationality, income, impairment, or any kind of potential discrimination.

INTEGRITY (ETHICS): our actions are based on ethical principles and in compliance with international human rights standards.

TRANSPARENCY: we communicated in a clear, precise, timely and honest manner, and through the regular publication of the results of decisions and their effects on society, the economy and the environment.

SUSTAINABLE DEVELOPMENT OBJECTIVES (SDO)

In 2015, we signed the Letter of Commitment to the Principles of the Global Compact, related to human and workers' rights, environmental protection and fighting corruption in all its forms. The

signing of this document is the consolidation of the commitment to support and develop these principles as part of the strategy, culture and daily operations of our organisation, promoting improvement of the Sustainable Development Objectives (SDO).

The adoption of the SDOs guides us towards a unique path, which performs a vital role in the construction of a more sustainable market in Brazil.

In our operations, we sought solutions for the challenges that arose, encouraging responsible choices and establishing opportunities for innovation and development.

Our vision is to promote society's engagement with the universal principles of the Global Compact as a strategy to solve worldwide challenges in the future.

In the chart below we demonstrate how, in its organisation of the Olympic and Paralympic Games, Rio 2016 always remained committed to the Sustainable Developments Objectives.

2 Final outcome

PLACAR FINAL [G4-1] [G4-12] [G4-EC1] [G4-EC8] [G4-EO13]

R$3.5 billion investment in the purchase of products and services	83% of hired suppliers were Brazilian	2,200 small and medium-sized companies transacted business worth over R$450 million
870 suppliers hired in 2016 alone	6.2 million tickets sold for the Olympic Games and 2.1 million for the Paralympic Games	The Games attracted 1.7 billion tourists to the city of Rio de Janeiro

A strong basis for operational efficiency and budget discipline were fundamental factors that enabled us to minimise challenges presented by the economic and political climate in Brazil.

Our budget originated primarily from private sources, in the form of sponsorship payments, the sale of broadcasting rights, transfers from the International Olympic Committee (IOC), ticket sales and sales of licensed Rio 2016 merchandise. Our responsibilities covered all activities required to prepare and stage the Rio 2016 Olympic and Paralympic Games. This did not include the construction of facilities and infrastructure works, which were funded from private and public resources under the responsibility of our governmental partners. Over the course of the strategic planning and operational planning phases, several budget reviews were undertaken, to balance the budget and reduce costs.

Creativity was a major tool in this respect. As an example, the opening ceremony for the Olympic Games amazed the world with a spectacle of culture, nature, music and Brazilian celebration. Without detracting from the aesthetics, charm and excitement, we managed to carry out an event with a budget 10 times smaller than that of London 2012 and 20 times smaller than that of Beijing 2008.

An event of Olympic proportions generates direct and indirect economic benefits both locally and nationwide. The Games generated over 5,500 jobs at the Rio 2016 Committee and 90,000 jobs through suppliers who provided services inside the Olympic and Paralympic facilities. The procurement of products and services by the Rio 2016 Committee totalled over R$4 billion (Brazilian reais), 83 per cent of which was paid to Brazilian suppliers.

VALUE OF CONTRACTS SIGNED WITH SUPPLIERS FOR THE PROVISION OF GOODS AND SERVICES	UNTIL DEZ/2012	UNTIL DEZ/2013	UNTIL DEZ/2014	UNTIL DEZ/2015	UNTIL SET/2016
*					
Total amount of contracts signed with suppliers	596,100	719,600	1,441,300	2,797,000	4,100,000
Total amount of contracts signed with national suppliers	554,300	649,500	1,045,900	2,137,200	3,390,000

*values in R$ 000

We employed a broad network of suppliers, which included companies from a vast range of sectors, engaged for a short but intense period. We purchased pins to attach numbers to the athletes' shirts, hired a cruise ship and dozens of horses, bought and hired sports equipment, and procured cleaning, technology and IT services and furniture, such as desks, chairs, beds and sofas. The procurement of materials and services began in 2013 and reached its peak in early 2016.

To support the increased productivity in our supply chain and create incentives for local businesses and the participation of small and medium-sized companies, Rio 2016 worked with non-governmental partners, private companies and industrial organisations. This partnership was based on the following strategic objectives:

- Identify business opportunities in different market segments
- Connect opportunities to supply needs for the Games
- Develop a plan to access and communicate with these segments
- Establish agreements and measures to develop the market in such a way that services and products can be delivered to a high standard
- Create opportunities to encourage the market to adopt more sustainable business practices
- Strengthen understanding and sustainable practice in Brazil
- Minimise undesirable economic impacts, such as peaks of high investment in production for the Games followed by post-event dips in industry and the economy due to seasonality and the sudden drop in demand
- Create opportunities to bring or expand knowledge and technical competence in the local market, by fostering national and international partnerships

We made economically, environmentally and socially aware choices when procuring products and services. That meant tracing materials, as well as ensuring that we bought products from factories that respect workers' rights and adopt best social and environmental practices. Furthermore, this meant ensuring everything used in competitions was adequately disposed of.

These principles are detailed in the Sustainable Supply Chain Guide, published in July 2012, which applies to suppliers, sponsors and licensees. Specific requirements for key purchasing categories are described on our procurement platform.

All purchasing categories were evaluated, taking their environmental, social and economic materiality into account.

SOCIAL ENTERPRISE
We contracted the 22,000 cushions needed for the athletes and media villages from social enterprises. The social enterprises provide work and revenue for women from Rio's most socially vulnerable neighbourhoods. The aim is to help them overcome barriers to employment, including those from single parenting, cancer recovering and returning from prison. In addition to providing them with a large contract, we invested in training and capacity building. Our in-house design team ran a design workshop to explore colours and visual language. The women have attended a quality control workshop through a partnership we developed with SEBRAE. They were also coached on how to make bulk purchases and negotiate better prices for raw materials. As a result, they will be left with a legacy of additional management skills, essential for the growth of their business.

The categories identified as being of high significance were instructed to register on the Supplier Ethical Data Exchange (Sedex Global) and required to perform an audit in compliance with the best practices of the Sedex Members Ethical Trade Audit (SMETA).

Any suppliers not approved in the audit on matters considered highly critical were not hired. Furthermore, during the contract term, whenever situations of risk or non-compliance were identified through audits or third-party reporting, the supplier was notified to remedy the issue. In cases identified as high risk, as well as the SMETA audits, production was also monitored on-site.

We were pioneers in using the sustainable purchasing tool of the Brazilian Business Council for Sustainable Development. This enabled us to act beyond the usual role of guardian of sustainability during the procurement decision-making process. The tool allowed us to give a real competitive advantage to products and companies with more enhanced sustainability practices.

Besides direct economic benefits created by the Rio 2016 Committee, tourists from all over the world came to witness the greatest sporting event on the planet, generating revenue for local commerce and hotels. According to the Rio de Janeiro local authorities, 1.7 billion tourists visited the city in the month of August.

The Rio 2016 Ticket Programme also catered for large numbers. During the draw phase alone on the ticket portal, 750,000 customers registered and 1.5 million tickets were sold for the Olympic Games. The demand for tickets to the Paralympic Games surpassed expectations. Over two million tickets were sold.

3 Infrastructure Value

FINAL OUTCOME [G4-1] [G4-EO13]]

After the Games, Carioca Arena 1 will serve to benefit athletes across 12 sports	Carioca Arena 3 will be transformed into an Olympic Experimental Gymnasium with a capacity for 850 students	Roughly 20,000 items were put up for auction on the official Rio 2016 website
46,000 items were offered through the donations portal	Internal structures from the television broadcasting building will be reused in the Pyeongchang 2018 and Tokyo 2020 Games	The Future Arena will be transformed into 4 schools, each with a capacity of 500 students

During the 16 competition days at the Olympic Games, 37 competition facilities (including the football cities) and 26 training facilities were used. For the 11 days at the Paralympic Games, 22 competition facilities and four training facilities were used. The majority of competition venues already existed: 79 per cent (in metres squared) of the sporting venue area was already in existence, while nine per cent of the facilities' area was used for temporary structures built only for the Games period, while only 12 per cent of the area was used for new constructions required for the Games, which will remain as a legacy for the city.

The construction of facilities and infrastructure works were funded from private and public resources under the responsibility of our governmental partners. All facilities were delivered to the Rio 2016 Committee by the deadline and in operating condition. We were responsible for the development of temporary structures and for management of the competition and support facilities during the Olympic and Paralympic Games.

The main competition venue and focal point for spectators of the Rio 2016 Games, Barra Olympic Park, was also an example of sustainability and accessibility. The highlight was the use of one of the most modern engineering concepts, nomad architecture, which involves the complete recycling of the constructions, which are used for new purposes after the Games.

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The International Broadcast Centre (IBC) covering roughly 79,000m² is one such example of smart architecture, which avoids wasting materials and underutilising the building.

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Its outer metal structures, which are already being disassembled, will be reutilised in a building with a capacity for 10,000 people. The internal structures, dividing walls and other materials will be reused at the Pyeongchang 2018 Winter Olympic Games, and then at the Tokyo 2020 Summer Olympic Games, in Japan.

One of the most innovative projects is the Future Arena. The home of handball, it was made by fitting together pre-fabricated modules. This eliminates wasting materials like concrete, as well as reducing construction time. It was the last sports facility in the Olympic Park to begin construction and the first to be delivered. Now the Games are over, the Arena will be disassembled and transformed into four municipal schools.

The three Carioca Arenas were also built taking into consideration their use post-Games. Whereas Arena 1 will be a centre of sports excellence for athletes across 12 sports and an events venue, Arena 2 will be a high-performance training venue. Arena 3, meanwhile, is being transformed into an Experimental Olympic Gymnasium (GEO), a state school for students with potential in competitive sports, with a capacity of 850 students.

The Rio 2016 Committee headquarters, which was the heart of the Games for three years, also followed the concept of sustainability from the moment it was planned. Its modular structure began to be disassembled soon after the end of the Games in October 2016, with up to 80 per cent of it made available for reutilisation in other facilities.

One of our priorities in all facilities was to offer an accessible experience for everyone, regardless of physical impairment or mobility restrictions. We ensured that spaces were free of obstacles and, wherever possible, we helped people move long distances by offering wheelchairs and transport in electric buggies free of charge within the facilities.

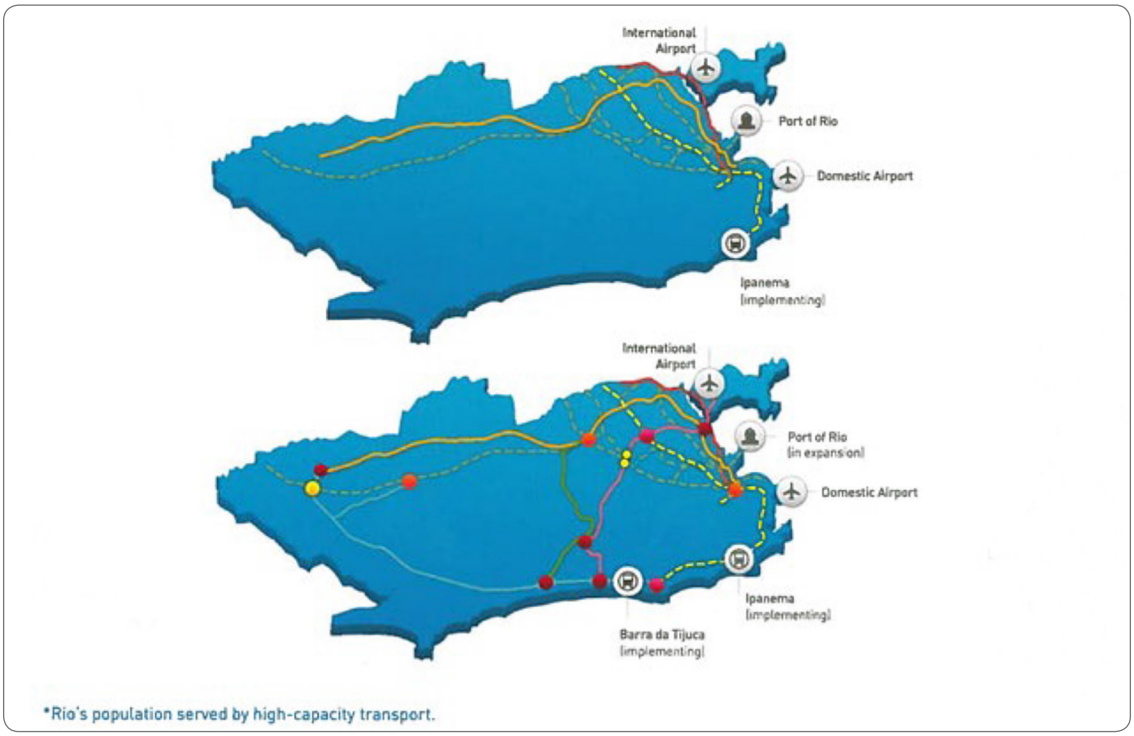
Hosting an event of this size also helped kick-start some infrastructure projects planned for the city that could otherwise have taken years to be performed. One of the main urban infrastructure projects accelerated by the Games was the revitalisation of Porto Maravilha – the port area in the city centre - which transformed a degraded 5,000,000m² area into one of the primary cultural and leisure sites in the city: the Olympic Boulevard. Not by chance, the site was chosen to host one edition of the Rio 2016 Fest, a free event where people could watch the athletes' performances on a big screen, celebrate with friends, enjoy a packed cultural schedule and try out sports for themselves. The Rio locals could also enjoy Rio 2016 Fest free of charge in Madureira and Campo Grande, as well as inside the Olympic Park and Deodoro.

During the Games one of the main Boulevard attractions was *Casa Brasil*, which was erected in two warehouses at the Mauá Pier and remained open until the end of the Paralympic Games. With free entry, visitors could see whatever was being shown about the host country, especially its regional traditions. Photographs and videos from various towns, exhibitions about the culture of the Brazilian northeast and the June winter festivals, athletes' stories and art exhibitions.

Casa Brasil also spoke about sustainable tourism. One of the panels showed the routes suggested by the Green Passport project and the Sustainable Tourism Map of Brazil. In another space, visitors could try out sports for people with an impairment, an initiative to encourage social inclusion. They played blindfold football and wheelchair basketball. It was great fun for all involved.

The most substantial infrastructure legacy of the Games will certainly be mobility, with the implementation of a modern integrated high-capacity transport system. When Rio was put forward as a candidate to host the Games, only 18 per cent of the city's residents used high-capacity public transport.

With the boost given by the Games, that rate rose to 60 per cent. The system includes four BRT (Bus Rapid Transport) lines, which connect the most remote areas of Rio's outskirts and the west zone to the rest of the city, expansion of the underground system, the modernisation of the rail network that connects the city centre to the suburbs, the Light Rail Transit (LRT), which will



Source: Rio de Janeiro City Government. Rio 2016: Games of Transformations, page 32

circulate around the city centre, and a further 450km of cycle lanes.

Part of the Games dissolution strategy also involves spectators. People from all over the world have the chance to take a piece of the Games' history home with them. Of the more than 30 million items purchased by Rio 2016, around 20,000 items, priced from R$1, are offered on the Rio 2016 auction site. Initiatives of this kind have been carried out since Vancouver 2010, but this is the first time that buyers from anywhere in the world, not only in the host country, can bid. The list of items for sale includes delegation flags used at the opening ceremony, relay batons, match balls and other official objects.

DONATIONS PORTAL

In order to stage the Olympic and Paralympic Games, the Rio 2016 Committee purchased thousands of items, from office supplies to furniture, IT equipment and sports equipment. Concerned with the life cycle of these items and striving to leverage the Games' legacy, Rio 2016 launched the Donations Portal in September 2016, an online platform listing products and materials used during the Games and offered for donation.

To determine which public bodies and not-for-profit organisations were qualified to receive such donations, Rio 2016 followed three regulations: Federal Law 12.780/2013 on tax measures relating to the Games, Law 6.423/2013 of Rio de Janeiro State, which addresses tax on gifts and donations, and ICMS Convention 133/08, which authorises Brazil's States to grant exemptions on value added tax on goods and services (ICMS).

After the three-month registration period, 450 organisations had enrolled via the Portal. By November, roughly 46,000 items had been donated in three waves of 14 batches.

4 Environmental Value

FINA OUTCOME [G4-1] [G4-EN3] [G4-EN6] [G4-EN8] [G4-EN10] [G4-EN12] [G4-EN15] [G4-EN16] [G4-EN17] [G4-EN18] [G4-EN19] [G4-EN20] [G4-EN23] [G4-EN30] [G4-EO5]

1,095 tonnes of recyclable waste sent to recycling plants and cooperatives	2.2 million tonnes of CO2 offset in innovative projects that will leave a low carbon legacy in important sectors of the Brazilian and Latin American economy	156 animals rescued inside the Olympic and Paralympic facilities
70 tonnes of certified fish consumed during the Games	100% of cooking oil used was sent to recycling cooperatives	240 families benefited through recycling of waste from the Games

During the preparation of the Rio 2016 Games, we incorporated environmental responsibility targets throughout their organisation (see chapter 7). A sustainability management system was created, including the management of projects and facilities, purchases and contracts, finances, human resources and risk management. The incorporation of environmental targets was intended to create a culture of organisational changes capable of overcoming budget restraints throughout the process.

Meeting the environmental targets was ensured from a variety of sources, which taken together provided a vision of how we operated an effective management system according to the ISO 20121 standard. Those sources included audit systems, functional and programme reviews, reviews of specific areas, audits of direct suppliers and contractors and audits in our supply chain.

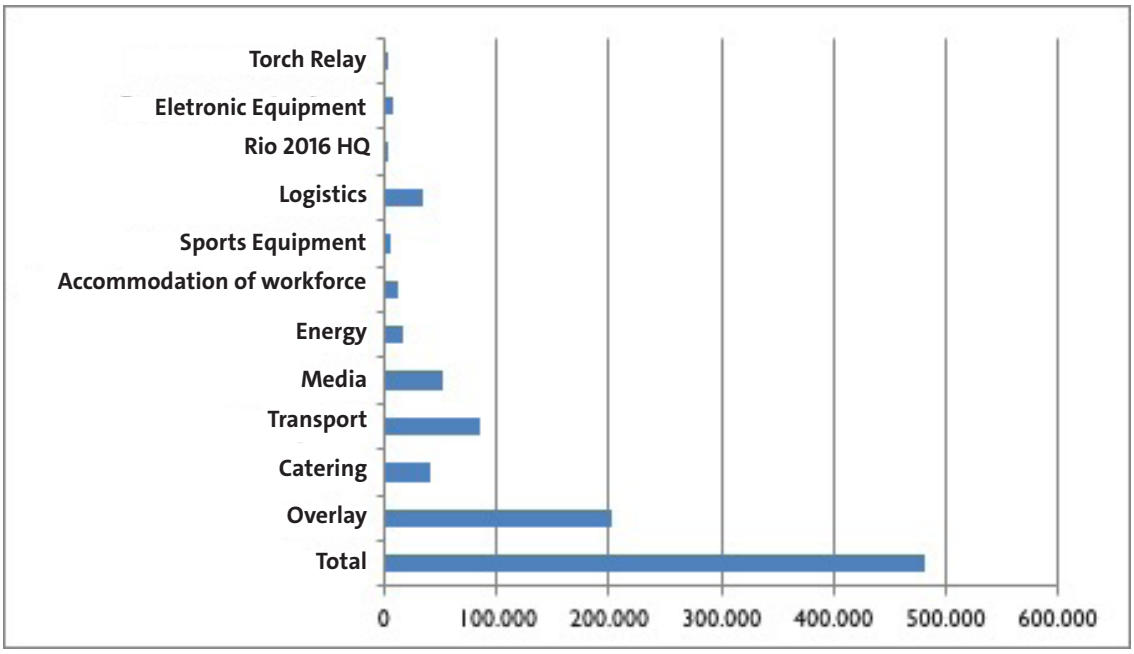
Our specific focus during the Games period was to ensure that operations in sensitive venues were conducted in full accordance with our environmental management plan, the measures taken planned to make more efficient use of natural resources were fully applied and all preventive measures to guarantee water quality at competition venues were implemented.

4.1. Climate Change and Energy

One of our main targets was to hold an event with low greenhouse gas emissions. Our objective was to reduce emissions under the control of Rio 2016 by 18.2 per cent in relation to the initial benchmark scenario calculated in 2014 and to offset all operational emissions, as well as a large portion of emissions associated with spectator travel.

We achieved a 26 per cent reduction in operational emissions and a 16 per cent reduction in emissions under our control, thus coming close to the established target. We achieved an offset of 2.2 million tonnes of carbon dioxide equivalent, which is equivalent to all the operational emissions and 71 per cent of spectator-related emissions, thus achieving the established target.

Rio 2016 Operational Emissions - effective emissions (tonnes of CO2-eq).



	Effective emissions (December 2016) [tonnes CO2-eq]	Initial emissions scenario (October 2014) [tonnes CO2-eq]
Total	481,121	650,145
Overlay	201,999	199,684
Catering	40,592	182,266
Transport	85,321	90,186
Media	52,124	33,299
Energy	15,171	30,455
Accommodation of workforce	12,290	19,602
Sports Equipment	5,198	19,561
Logistics	32,970	19,309
Rio 2016 HQ	3,950	17,341
Electronic equipment	6,756	11,059
Torch relay	2,893	9,158
Uniforms	9,463	8,024
Security	2'298	6'003
Ceremonies and culture	429	4'122
Solid waste	9'667	76

To reduce operational emissions, we combined three main strategies:

- Avoid emissions through careful planning
- Reduce the carbon footprint incorporated in the materials by means of intelligent design and sustainable purchasing
- Replace fossil fuels with renewable fuels in our fleet operations

Regarding the origin of the energy used, our main strategy was to use as much energy as possible from the electrical power grids, as roughly 75 per cent of electricity in Brazil is generated from renewable sources, primarily hydroelectric plants. Therefore, new power distribution networks were installed from two substations, which ensured system reliability and reduced the number of generators required at Barra Olympic Park. Whenever the use of temporary generators was inevitable, smart engineering systems were used, which resulted in a significant reduction in greenhouse gas emissions and operating costs. Furthermore, a certain number of generators required as backup in case of power cuts were used in cold standby mode, and were only operated in the event of a temporary failure of the main system.

We planned an efficient, reliable, accessible and financially solid transport system for the Games. The system included a target of 100 per cent public transport use by spectators and volunteers, which was reinforced by the absence of any car parks for spectators at the venues. Another fundamental measure during the Games was route optimisation for our fleet, consisting of buses and light vehicles used to transport athletes, officials, technicians, press and members of the Olympic and Paralympic family. The replacement of fossil fuels with renewables was another essential part of our sustainable transport plan: 80 per cent of our light vehicle fleet used ethanol, which represents an estimated 1,400-tonne reduction in CO_2 equivalent.

Buses were fuelled by a mixture that contained 20 per cent biodiesel. The logistics planning followed a similar strategy. The focus was on choosing locally manufactured products, thereby avoiding long-distance journeys. Another measure undertaken was to carefully plan distribution to the different facilities, maximising vehicle loads and avoiding unnecessary trips.

The carbon footprint incorporated in the materials and products used in temporary structures was also a reduction target. Our design teams worked on the challenge of reducing the carbon footprint of the temporary facility structures in relation to the initial design. Smart design choices also allowed an efficient use of pre-existing materials, including modular structures, which reduced the number of products customised for the Games. This method enabled us to maximise the renting of materials such as marquees, seating, barriers and containers.

Energy – 31.3GWh from network related to Games operation / 3.180 MWh from HQ network.

Fuel – Gasoline: 8,703 litres / common diesel: 225,623 litres / ethanol: 1,070,615 litres / biodiesel (B20): 1,709,920 litres / ARLA diesel: 26,846 litres.

Despite the reductions achieved, we acknowledge that the carbon footprint was substantial. Therefore, we developed an ambitious offset strategy, which included counterbalances through technological mitigation, knowledge transfer and behavioural changes.

Drawing on a wide-ranging portfolio of solutions and an extensive network of commercial relations in Brazil and Latin America, Dow, the Official Carbon Partner of the Rio 2016 Olympic and Paralympic Games, worked with its clients to raise awareness and promote the adoption of energy-efficient, low carbon technologies, through the following projects:

- Precision farming in Mato Grosso: helping farmers optimise crop productivity and reduce GG emissions by introducing precision farming practices and technologies. Reductions in emissions will primarily result from increased productivity and optimised use of fertilizers.

- Recovery of degraded pastures in Mato Grosso: working with a leading agricultural group (Roncador) in the implementation of an efficient carbon tracking methodology to increase productivity and reduce GG emissions, recovering 50,000 – 100,000 hectares of degraded pasture areas by applying advanced weed control and seeding solutions.

- Adopting the use of polyurethane insulation boards in the civil construction sector: raising awareness in the construction chain in Brazil and Argentina about the importance of efficient insulation technologies in buildings, to achieve an energy-efficient economy, thus reducing energy costs and limiting emissions from cooling and heating systems in Latin America.

- Versatile technologies for packaging food products, cosmetics and personal hygiene and cleaning products: working with packaging film manufacturers in five countries (Brazil, Argentina, Guatemala, Mexico and Colombia) to accelerate the adoption of a Dow proprietary technology (Microfoaming) which increases productivity and results in lighter films with the same functional properties.

- Biomass-generated energy for industrial use: adopting innovative technologies for generating energy and steam from eucalyptus and sugar cane biomass in two Dow facilities in Brazil, replacing fossil fuels (mainly natural gas) and significantly reducing GG emissions. One of the projects will also reforest approximately 5,000 hectares of degraded area in Bahia.

24 MILLION TREES OR 2.2 MILLION TONNES OF CARBON?

The actual emissions offset of the Games was far broader-reaching than proposed in the bid. Besides emissions from Games operations (estimated at 650,000 tonnes in 2014, and reduced to 490,000 tonnes in July 2016), a significant part of the indirect emissions by spectators was also offset (travel, accommodation, food and drinks, etc.) totalling 2.2 million tonnes of carbon equivalent.

Chapter 6 of the bid dossier proposed that "the emissions generated by the operations of the Rio 2016 Games shall be neutralised by means of reforestation, with more than 3 million trees planted in strategic areas of the Tijuca Forest, out of a total of 24 million trees to be planted by Rio de Janeiro State by 2016." In other words, the extent of planting directly related to the Olympic Games was three million trees, and the neutralisation proposal was restricted to operational emissions.

Tree planting is welcome in the struggle against global climate change, but is not sufficient in itself. It is imperative to emit less, which is achieved by ending deforestation, replacing fossil fuels such as oil and coal, investing in renewable energy, and changing the methods of agricultural and livestock production. The offset projects for the Rio 2016 Games did precisely that, bringing technological innovations to reduce emissions in key sectors of the economy, including farming and livestock production, plastic packaging manufacturing, and the use of renewable energy in industrial plants.

4.2. Waste Management

The most environmentally smart and efficient way of managing solid waste is, first and foremost, to avoid its production. Our waste management strategy followed the hierarchy outlined below:

- Avoid
- Reduce
- Reuse
- Recycle in collaboration with local waste picker cooperatives
- Dispose adequately of non-recyclable waste

Prior to the Games, it was expected that 8,000 tonnes of solid waste would be generated, the equivalent of one day of waste collected in the city of Rio de Janeiro. To reduce the amount of waste, each operational function (such as catering services, temporary structures, visual communication and logistics) adopted specific measures, such as hiring and reusing materials. For example, 90 per cent of staff training material was provided online, reducing paper production. Furthermore, we reduced the need to print competition results by 44 per cent, via the use of a leaner printing and distribution method.

The total generation of waste during the Olympic and Paralympic Games was approximately 6,000 tonnes, roughly 25 per cent less than forecast (see chapters 7 and 8 for indicators and breakdown of the amounts by type of waste).

Waste management involved the public and the participation of important personalities from civil society. Through the inclusive recycling initiative, negotiations for which began back in 2014 and introduced waste pickers into the collection logistics, we managed to multiply the positive results of the operation. As this was still a new concept in major events in Brazil, the participation

of the waste pickers in the Games took the form of an institutional partnership between Rio 2016, Coca Cola and the Rio de Janeiro State Environmental Department, with measures based on three fronts: recycling operations, logistics and education for sustainability.

It also involved a partnership with the Labour Prosecution Office, which defined the legal parameters for contracting the cooperatives and established the Terms of Agreed Conduct with the parties involved, focusing on the pickers' health and safety at work.

Alongside the cooperatives, there was an unprecedented partnership between the three networks that represent the vast majority of organised waste pickers in Rio de Janeiro state, directly involving 33 cooperatives and 240 recyclable material pickers in the Games areas. This action was also unprecedented in view of the remuneration of the pickers, meeting a long-standing demand of the movement: to be paid for services provided and not just for sale of the material.

Besides the logistics for waste collection and separation, the pickers also acted as educators through direct interaction with spectators, raising public awareness about the importance of selective waste disposal. Their "lollipop backpacks" bore signs with messages that promoted recycling and directly instructed spectators about the correct way to dispose of different types of waste. The result was an increase in the percentage of recyclable waste disposed of correctly by Rio 2016, as well as raised public awareness about the importance of recycling for the environment and for the people directly involved in this chain

OS OBJETIVOS PRINCIPAIS DA INICIATIVA DE RECICLAGEM INCLUSIVA FORAM:

The waste pickers' activity was also publicised in internal communications in the Olympic Park and other media.

Maximize recycling of waste
Involve the cooperatives in the waste management of major events
Promote awareness and habit changes toward recycling
Generate visibility for the event, sponsors and waste pickers
Achieve the socio-productive inclusion of the waste pickers
Objectives

To engage the public in competition arenas, 2,000 stickers were put up in busy areas, with messages to encourage recycling. The stickers contained phrases in English and Portuguese that were chosen from the "Rio 2016 Embrace Recycling Challenge". The challenge was promoted by the sustainability and education areas of the Rio 2016 Committee and challenged primary and secondary school children from over 7,000 schools in Brazil to submit short phrases that would encourage recycling at the Games. A total of 929 phrases were received and a Rio 2016 jury selected the best 10, which were subsequently printed on the stickers, bearing the name and school of the student who created the winning message.

4.3. Catering

There were also positive results in relation to the targets for a sustainable catering operation for the Games (see pre-Games integrated report, section 6.2 and chapter 7 of this report). The contracted catering companies guaranteed that 100 per cent of the beef was produced without deforestation and 70 tonnes of fish was sourced from sustainable fishing. This represented the largest supply of sustainable seafood of any edition of the Olympic and Paralympic Games.

Included on several menus at the Olympic Village, the Media Village and the media centres were ASC (Aquaculture Stewardship Council)-certified, responsibly farmed Brazilian tilapia produced by Netuno and Chilean salmon produced by Los Fiordos, and MSC (Marine Stewardship Council)-certified Icelandic cod and Canadian chum salmon. McDonalds Brazil also served 100 per cent MSC-certified hoki (hake) in its McFish sandwiches throughout Brazil during the Games.

To fulfil the commitment of supplying sustainable seafood of responsible origin, the Rio 2016 Organising Committee and its partners brought new, certified seafood suppliers to Brazil. As a result, many aquaculture and fishing businesses in all regions adopted measures to meet the environmental requirements in accordance with the MSC and ASC standards.

4.4. Biodiversity

Twenty-five per cent of Rio de Janeiro is covered by forest. During the Games, we operated some sports facilities located in areas of rich biodiversity, where aspects of biodiversity are very important, such as the Olympic Golf Course, Rodrigo de Freitas Lagoon, Deodoro and Marina da Glória. As well as taking this opportunity to raise people's awareness and stimulate knowledge about biodiversity, we operated in these more sensitive venues without causing negative impacts.

For the first time at the Games, an animal management strategy was developed. As the regions of Deodoro and Barra da Tijuca have the largest fragments of Atlantic Forest and a great diversity of habitats (forests, coastal dunes, mangroves, lagoons and beaches), wild animals are frequently encountered. Wild animals received due care and protection. Rescues occurred only in high risk situations in competition areas, and the animals were subsequently released into their original habitats. In addition, a series of measures were taken to ensure that domestic animals that lived as strays near competition zones found a responsible and safe home.

A total of 63 wild animal rescues were recorded, the most common of which were capybaras, opossums, marmosets, southern lapwings and burrowing owls. Of this total, 13 animals were sent to a Wild Animal Recovery Centre of Estácio University and the rest released in the vicinity of the facilities. As well as wild animals, dogs and cats were also rescued. The 93 animals rescued were sent for veterinary treatment. Through an adoption campaign carried out by a partner organisation, 90 domestic animals were adopted. They were all named after Olympic and Paralympic athletes.

INVOLVING THE COMMUNITY IN THE PROTECTION OF ANIMALS

The innovative initiative of the Games to create a strategy for animal management in facilities also involved the participation of the local community. Many residents of areas near competition venues already care for the local animals as part of their daily lives, making their involvement in this project was key to its success.

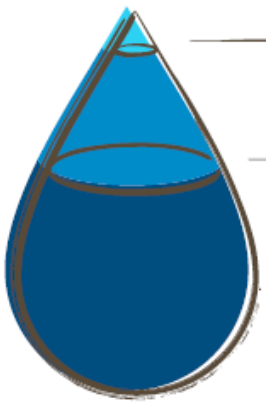
Maracanã Cats Project: carried out the capture, sterilisation and return of 85 cats that lived in the areas surrounding the Maracanã Stadium complex. The project involved the collaboration of 10 protectors, who were local residents who had already been caring for the cats around the stadium for 15 years. All decisions and procedures to be adopted were agreed in conjunction with the protectors, who were registered and accredited so that they could continue caring for the cats during the Olympic and Paralympic Games. As a form of legacy, five permanent signs were installed in the outdoor areas of the Maracanã complex, with the objective of avoiding more abandonments and mistreatment of the cats that live in the location.

Dialogues with the Community: in places such as Deodoro, Guaratiba, Alto da Boa Vista, Maracanã and Catumbi - in the area around the Sambadrome - banners were erected, informing people about the importance of responsible pet ownership. Conversations were held with the residents of these neighbourhoods around the competition venues and we distributed educational pamphlets addressing issues related to animal health, guidance on how to keep animals responsibly and the importance of not leaving animals loose on the streets, as well as steps to avoid animal mistreatment.

4.5. Water

Water quality at competition venues was one of the major concerns for Rio 2016. The water was monitored daily at Marina da Glória, Rodrigo de Freitas Lagoon and Copacabana Beach. World Health Organisation (WHO) recommendations were followed to classify the water quality. As well as daily sanitary inspections to identify possible sources of pollution, enterococcal bacteria levels were measured in fresh and sea waters and Escherichia coli in fresh waters. No competition was compromised due to water quality. The water quality test results were published on the Rio 2016 website and no incidents were reported by the delegations.

Regarding the efficient use of water at the facilities we operated, the following measures were applied: reduced consumption through the acquisition of more economical equipment, smart planning and behavioural changes. The new temporary bathroom models procured from suppliers have low-flow taps, dual-flush systems and low-capacity toilets. We worked with catering and hotel suppliers under contract to aid them in reducing water consumption. Furthermore, communication initiatives related to rational water usage were implemented among spectators, workers and athletes.



2m³
Bottled water

8.515 m³
Reusable rainwater system

4.674.217m³
Water utilities supply

4.6. Environmental awareness

We prioritised the development of awareness-raising activities among spectators, the press and guests. Through signs posted both in and around the venues, as well as engagement activities, we encouraged behavioural change across the various groups.

During competition days at the Olympic Golf Course (except on weekends) spectators and accredited media could take the sustainability tour, an environmental awareness and education programme that aimed to present the main sustainable actions and environmental aspects of the Olympic Golf Course.

Each guided tour lasted roughly 45 minutes and gave the participants the chance to learn about the recuperation process of the golf course and surrounding areas, as well as of local ecosystems and wildlife. So as not to interfere in the competition and bearing in mind the etiquette of the sport, participants wore headphones throughout.

During the approximate 1,500 metres of the tour, participants could also benefit from detailed information boards about local wildlife. These boards will remain as a legacy for the Olympic Golf Course.

5 Intellectual Value

FINAL OUTCOME [G4-1]

85,000 visitors per day at the Copacabana and Olympic Park megastores	Over 350,000 hours of television broadcasting	218,000 hours of digital coverage
90% of the Brazilian population watched the Games	Half of the world's population saw some event at the Games	

The story of the Rio 2016 Games can also be told through representative images and icons. The Olympic and Paralympic logos, the Olympic rings, the Paralympic agitos, the mascots Vinicius and Tom - all managed to convey some of the emotion of the Games.

The Olympic torch relay sparked the involvement of the Brazilian people in the excitement of the Games. The flame, lit in Greece, spread the meaning of human warmth around the whole country, carrying with it our stories, culture and traditions. It conveyed the Olympic values throughout the entire journey until it reached Rio de Janeiro, having passed through 323 Brazilian cities in three months, crossing highways, towns and countryside, uniting peoples, races and faiths. Among other nominees, the Organising Committee selected 28 Brazilians involved in sustainability throughout the country to carry the Olympic torch. These people were chosen due to the role they play in their communities and now have the mission of telling their stories for the benefit of a more sustainable Brazil.

The Paralympic torch travelled through six Brazilian cities over seven days, until it arrived in the Cidade Maravilhosa, as Rio is known. The flame lit in each city represented one of the values of the Paralympic Games: Brasília - equality; Belém - determination; Natal - inspiration; São Paulo - transformation; Joinville - courage; and Rio de Janeiro - passion.

© RiO 2016/ Gabriel Nascimento

The Rio 2016 Olympic Games were opened on 5 August with an unforgettable show at the Maracanã stadium. Brazil showed its most joyous side, with colours, rhythms, lights and a great deal of celebration. A team of musicians from the most diverse genres, a strong message for peace and the environment and a hypnotic Olympic flame provided a warm welcome to the world, gathered in Rio de Janeiro to celebrate the Games.

The ceremony also presented to the three billion viewers worldwide the Games' commitment to combat climate change, calling on the athletes to take action. Each of the over 11,000 Olympic athletes entered the stadium carrying a seed to be planted, resulting in one of the most touching images of the night: the Olympic rings formed of trees.

© RIO 2016/ Alex Ferro

The opening ceremony of the Paralympic Games was a spectacle of colours, lights and sounds to toast the world's leading Paralympians. The audience was moved by the message of inclusion. With the slogan "Everyone has a heart", the ceremony was a spectacle driven by a light show from the stands, a mega ramp and a stunt jump by a wheelchair athlete, a Paralympic muse dancing with a machine, a jigsaw forming a beating heart and much more.

In line with the sustainability message of the opening ceremony, the Olympic flame was also a major highlight of the Games. Accompanied by a 12-metre diameter kinetic sculpture that moves with the wind and reflects the flame, the modest flame gained a new dimension. Due to its smaller size when compared to other Olympic flames, it therefore managed to reduce gas consumption and visually enchant the audience. It is no coincidence that for the first time in Olympic history, a replica was placed outside the Olympic stadium, allowing the population and tourists to appreciate one of the symbols of the Games.

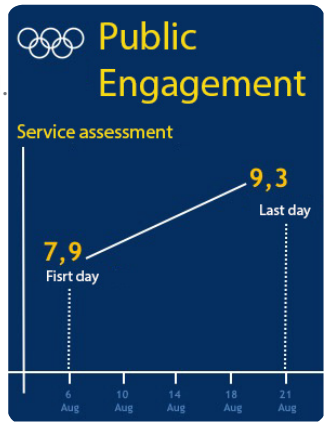
© RIO 2016/ Alex Ferro

6 Human and Social Values

FINAL OUTCOME [G4-1] [G4-EO5] [G4-EO11] [G4-LA13] [G4-LA1]

Qualification of 500 people as technicians for sport events through the Young Apprentice programme	Participation of 40,000 volunteers from 156 countries and all 27 Brazilian states	236,000 tickets distributed to students from the Transforma programme and NGOs
63,350 downloads of *Transforma* programme materials on the online platform	Over 173,000 likes on the Green Passport Facebook page during Rio 2016	

One of our main challenges was to involve not only cariocas (Rio locals) but all Brazilians in the Games. The result of these efforts came through the public's positive assessment of the services offered. From the first to the last day of Olympic events, the spectators' ratings increased considerably.



It was also necessary to ensure that the whole workforce was trained and prepared for the delivery of an excellent and memorable Games. In total, the Games workforce consisted of over 5,000 staff and roughly 40,000 volunteers. Over the course of our journey, we created a working environment that favoured professional, career and skills development, with diversity and inclusion at the heart of matters. When investing in quality training for staff and volunteers, we created and shared values.

Workforce by kind

WORKFORCE	DEC2012	DEC 2013	DEC 2014	DEC 2015	SEP 2016	SEP 2016 /JP
Employees	369	589	1,006	2,116	5,692	4,323
Volunteers	0	0	59	6,507	26,830	12,678
Total workforce	369	589	1,065	8,623	35,522	17,000

Workforce by nationality

WORKFORCE	DEC 2012	DEC 2013	DEC 2014	DEC 2015	SEP 2016
Brazilians	306	524	958	2,116	33,581
Outras nacionalidades	63	63	107	6,507	5,926

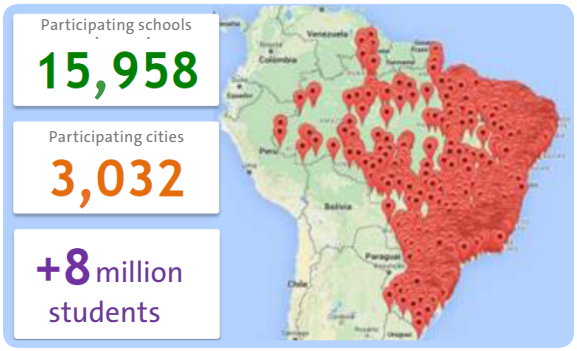
The commitment to deliver a Games for everyone began at the outset of the Rio 2016 Committee's work. Through the creation of a culture of social inclusion in our workforce, we strove to encourage appropriate receptivity towards the different types of audience during the Olympic and Paralympic Games. Likewise, ensuring equal working conditions for everyone was also part of our way of working, as demonstrated below.

	Proportion of salary women/men	Proportion of salary people with impairment/people without impairment
	2016 (up to September)	
Executive and Functional Officers	82%	97%
Managers (General Managers and Managers)	103%	121%
Supervisors, Coordinators and Specialists	91%	90%
Analysts and others	118%	65%

The most inclusive Games of the modern era featured the very first Team of Refugees, who competed under the IOC flag in three sports: swimming, athletics and judo. The team was formed of 10 athletes who had fled from regions in conflict or war. Five were from South Sudan, two from Syria, two from the Democratic Republic of Congo and one from Ethiopia.

To celebrate the Olympic Truce - the international movement that uses sport to promote peace - and to welcome the team of refugees, a ceremony was conducted at the Olympic Village with the athletes in attendance. There was also a performance by a children's choir, formed of 26 refugees who live in Brazil.

The educational programme Transforma took the Games into schools, promoting the Olympic and Paralympic values among students before and during the Rio 2016 Games. Launched in 2013, the programme achieved some impressive figures:



The *Transforma* students and children helped by non-governmental organisations also had the opportunity to experience the Games. Over 115 NGOs and 47,837 students were awarded tickets, amounting to roughly 236,000 admissions.

During the Rio 2016 Games, we had a space dedicated to publicising our sustainability actions to the accredited media inside the MPC (Main Press Centre) building. Called the Sustainability Lounge, this area had a special schedule to address the Games' major sustainability themes with the participation of partners.

The Rio 2016 Committee also drew on the strength of sport in engaging and encouraging people to adopt more sustainable practices in tourism. Through the support of the Green Passport campaign, developed by the United Nations Environment Programme (UNEP), we approached spectators with simple tips for different tourism. We encouraged respect for the environment and local culture and support for socio-economic development in Rio communities. The campaign brought out the potential in tourists to contribute toward local sustainable development during their stay.

In this festive setting, we presented tourists with original excursions and routes to follow in one of the world's most beautiful cities. By supporting the Green Passport campaign at the Rio 2016 Games, we consolidated our commitment to the Sustainable Development Goals: economic growth through sustainable tourism, generating jobs and promoting local culture and its products; responsible production and consumption by encouraging the adoption of sustainable practices and lifestyles in harmony with nature; "Life on land", which guarantees the conservation; and sustainable use of ecosystems and their environmental services.

VIRTUAL ENGAGEMENT PROMOTING THE LEGACY

By joining forces, Rio 2016, UNEP and Cisco launched the "I look after my destiny" programme in 2016, an initiative to engage residents, visitors and tourists to be part of the improvements made in Rio de Janeiro in order to host the 2016 Olympic and Paralympic Games, which would survive as a legacy for the city.

Engagement began in the virtual environment through the app "Eu Cuido", and was multiplied across social networks, workshops and events, in which the population played an active part in the transformation of these public spaces. Making use of technology to encourage social participation and the adoption of tourist activities that promote local development and respect for the environment and culture, the app presented details about the progress of the projects, where they were happening and how to get involved.

Focusing on the port area, one of the revitalised areas of the city, where other Cisco social and urban innovation projects are already underway, the programme consisted of three urban intervention projects, chosen by a committee formed by the three organisations.

ACTIVE PRAÇA DOS ESTIVADORES (DOCKERS' SQUARE): This project consisted of the creation of multi-purpose wooden modules that could serve both as a stage and as urban furniture. The project is one of the initiatives aimed at improving the Dockers' Square infrastructure as a venue for artistic activities in the region.

AUTHENTIC TOURIST TRAIL THROUGH THE MORRO DA CONCEIÇÃO: The proposal was to create a tourist trail in the Morro da Conceição and surrounding area, mobilising pupils from three local schools and putting into practice the concept of sustainable tourism. The trail was built by roughly 90 school children in workshops, meetings and events. Through dialogue with the participants and in the form of spatial interactivity and learning about history, the environment and local culture, the aim was to engage the pupils' feeling of belonging with the region, where they live and which they frequent on a daily basis.

REVITALISATION OF THE BALUSTRADE OF THE MORRO DA CONCEIÇÃO STEPS: The project was part of the revitalisation works in the Rio de Janeiro port area, which returned touristic relevance to the part of the city. It reveals the importance of considering the region's cultural wealth when developing strategies to preserve Rio de Janeiro's history and identity. The overlap between material and immaterial heritage is a highly relevant factor in cultural preservation, since physical locations and monuments serve as places of memory and cultural expression, which in turn bestow symbolic value upon the physical spaces. The project involved the installation of a ceramic mosaic on the balustrade of the steps that connect the Travessa do Liceu to the Ladeira do João Homem, in the Saúde neighbourhood. The aim was to revitalise the steps by enhancing the area's aesthetic with a work of art that displayed a technique compatible with local history. One direct benefit of the project is the attraction of visitors, thus boosting the local economy.

In cooperation with the NGO Childhood Brasil, Rio 2016 implemented several measures to reduce the risk of violation of children's rights before, during and after the Games. Among other initiatives, we provided training and practical advice to contractors, staff and volunteers about the best way of dealing with the protection of boys and girls, children and teenagers.

Public engagement measures were also adopted by screening videos produced by NGO partners to publicise the importance of this issue to society. Rio 2016 also worked in partnership with the ILO (International Labour Organisation) to train taxi drivers. This training addressed the theme of protecting children and teenagers from sexual exploitation.

Arca Brasil
The Humanitarian Association for Animal Protection and Welfare (Arca Brasil) worked with us to promote the protection and welfare of abandoned animals found at competition venues. The partnership also included the development of content about wildlife for Brazilian school teachers, available through the *Transforma* programme.

Childhood Brasil
Childhood Brasil led roundtable discussions to develop an action plan to protect children and teenagers during the Games. The discussions gathered professionals from civil society, local government, the Human Rights Office of the Presidency and UNICEF. The organisation also cooperated on the Green Passport initiative by providing expertise on how tourism infrastructure could protect children and teenagers. Furthermore, Childhood Brasil supported us with the operational concept of this edition of the Olympic Truce and generated content to raise the awareness and engagement of spectators, sponsors, media professionals, athletes and delegations.

CVI-Rio
The Centre for Independent Life of Rio de Janeiro, known as CVI-Rio, began its partnership with Rio 2016 with active participation in dialogues with civil society. CVI-Rio held round tables about accessibility, supplying specialised material for Transforma and to raise the awareness and engagement of spectators, sponsors, media professionals, athletes and delegations. The organization also contributed toward the Green Passport initiative by providing know-how and content about accessibility for responsible tourism.

Expo Milano 2015
Rio 2016 and Expo Milano 2015, the world's biggest sporting event and universal exposition, respectively, joined forces to share experiences. The Polytechnic Institute of Milan, a renowned Italian university, and Instituto-E, a not-for-profit organization from Rio, executed the agreement, which consisted of two technical workshops. The first was held in Milan, in December 2013, and the second in Rio, in May 2014, with focus on low carbon strategies and sustainable management in temporary structures.

FSC – Forest Stewardship Council
Our collaboration with the FSC Brasil was aimed at ensuring that all forest and wood products we purchased, such as temporary structures, furniture and fittings, printing materials and stationary, were of certified origin. The initiative contributed toward the preservation of native forests and peoples and helped fight deforestation. Furthermore, the additional demand for certified wood and paper that we created encouraged new sustainable production chains, thus contributing further to forest protection.

MSC and ASC – Marine Stewardship Council and Aquaculture Stewardship Council
The Games were an opportunity to promote and reward sustainable fishing in Brazil. The MSC and ASC stimulated local fishermen to supply certified fish and seafood for the meals served during the Games. The initiative increased the number of certified products in the country. Seventy tonnes of certified fish were served, significant progress when compared to the 40 tonnes served at the London 2012 Games.

Rio Sustainable Eating Initiative
Created jointly by civil society organisations, the government and research institutes, and coordinated by Conservation International (CI-Brasil) and WWF-Brazil, this initiative supported Rio 2016 in the creation of a plan for the supply of healthy and sustainable food for the Games. The objective was to improve the national food industry, facilitating access to healthy and sustainable products, which should be accessible to everyone, and food from ethical, diversified and safe sources.

Sebrae – Brazilian Micro and Small Business Support Service
SEBRAE on the Podium project was aimed at qualifying micro and small businesses so that they could become Rio 2016 suppliers. As well as diagnostics, training and assistance for certification (when required), all qualified micro and small businesses receive the international UNSPSC rating, recognised by the UN. As a result, over 2,200 small and medium-sized businesses became direct suppliers to Rio 2016.

UNEP – United Nations Environmental Programme
In August 2013, we signed a technical cooperation agreement with UNEP, which, among other things, provided expert technical advice, facilitated dialogue with stakeholders and ran sustainable tourism campaigns. In September 2015, we collaborated with UNEP to launch the 2016 edition of the Green Passport campaign, a communication and public engagement platform for the Games, focused on sustainable tourism and responsible consumption.

UNICEF
The United Nations Children's Fund (UNICEF) participated in roundtable discussions to develop an action plan to protect children and teenagers during the Games. Furthermore, it contributed to the Green Passport initiative by providing expertise on how the tourism infrastructure could protect children and teenagers. UNICEF also supported us with the operational concept of this edition of the Olympic Truce and generated content for the Transforma programme and to raise the awareness and engagement of spectators, sponsors, media professionals, athletes and delegations.

World Animal Protection
The World Animal Protection organisation is a not-for-profit entity aimed at animal welfare, which worked in partnership with Rio 2016 to develop sustainable, humane and effective management of the animals that live near the Olympic venues. The joint work involves technical training for animal management and raising awareness among local residents around the competition venues about responsible pet ownership.

Our sponsors formed partnerships with various local organizations in order to use the Games as an opportunity to strengthen and expand social projects, among which we can highlight:

CISCO
Cisco formed a partnership with the city's Science and Technology Department to offer free training in technology at the Ships of Knowledge (municipal learning centres in needy communities in Triagem, Madureira, Padre Miguel, Complexo do Alemão and Engenho de Dentro). Classes included the installation of new equipment and the implementation of the Cisco Networking Academies programme at these centres.

OMEGA
Omega worked alongside the NGO Viva Rio on 12 projects in needy areas of Rio de Janeiro. The initiatives promoted improvements in community spaces and learning centres in Rio de Janeiro, and had the aim of helping thousands of young people and their families.

COCA-COLA
The Instituto Coca-Coca Brasil reaches out to 550 communities in 150 cities by means of seven programmes that have a positive impact on 100,000 people across the country. Its main programme, called Coletivo, is found in poor communities and provides vocational training with the aim of generating income and increasing the population's self-esteem in needy areas of Brazilian cities. The focus is on promoting the empowerment of youngsters through technical training and access to the job market. For the Olympic Games, the project planned three training cycles, which reached 2,000 youngsters. Furthermore, strategic partnerships were negotiated with commercial partners and suppliers of Rio 2016 with the aim of increasing the chances of these young people being hired during the Games. The result was the creation of 5,000 positions made available to youngsters on the programme's job platform.

DOW
Dow was a partner in the Transforma programme and assisted Rio 2016 in taking science, technology, engineering and mathematics to over one million Brazilian students. Though the partnership, the Games were used as a unique opportunity to demonstrate the applicability and relevance of science and an opportunity to learn how sustainable practices can be incorporated into our daily lives.

EDUCATION FIRST (EF)
EF offered a large number of scholarships for English courses, which were distributed to 20,000 taxi drivers in Rio de Janeiro and São Paulo, 156,000 students in the state of Rio de Janeiro, 240,000 pupils from state technical schools and 4,700 students from favelas and other needy communities who are preparing for the National High School Exam (ENEM).

NIKE
Nike has a partnership with the city's Sports and Leisure Department (SMEL) to broaden access to the Olympic villages throughout the city as a key Games legacy. The municipal government of Rio built 22 sports centres in needy areas of the city, which offer free activities to local residents. By supporting their actions, Nike is helping the Olympic villages encourage children and young people to partake in sport.

NISSAN
Nissan has a partnership with the NGO Gol de Letra and other organisations to offer training to the residents of Caju, in the north of Rio. Classes include technical education, preparation for the ENEM and talks in schools. With this reinforced education, the youngsters of Caju will be better prepared for new employment opportunities.

7 Sustainability Key Performance Indicators

TRANSPORT AND LOGISTICS					
GENERAL OBJECTIVE	**TARGET**	**KEY PERFORMANCE INDICATOR (KPI)**	**UNIT**	**APPLICABILITY**	**RELATADO PÓS JOGOS**
To reduce air pollution (reduce GHG emissions)	100% of Rio 2016 procured buses and generators running with B20 biodiesel fuel	Amount of B20 biodiesel fuel used on Rio 2016 buses and generators Vs. Total amount of fuel used on Rio2016 buses and generators	%	Games Time	98%
	80% dos veículos leves adquiridos pelo Rio 2016 movidos a Etanol 80%	Amount of ethanol used on Rio 2016 procured light vehicles Vs. Total amount of fuel used on Rio2016 light vehicles	%	Games Time	99%
	Reduce the total amount of fuel used in Rio 2016 fleet (light vehicles and buses)	Amount of fuel Vs. Estimated amount of fuel at the baseline of 2013	R	Games Time	
	Maximise the procurement of local suppliers	Brazilian suppliers procured by Rio 2016 Vs. Total of suppliers procured	%	Games Time and Test Events	88%
	Maximise the procurement of local suppliers	Suppliers from Rio de Janeiro state Vs. Brazilian suppliers	%	Games Time and Test Events	62%
	Reduce the total amount Km of logistics	Amount of logistics km Vs. Estimated amount of logistics km at 2013 baseline	R	Games Time	Quantification not possible

WASTE MANAGEMENT					
GENERAL OBJECTIVE	**TARGET**	**KEY PERFORMANCE INDICATOR (KPI)**	**UNIT**	**APPLICABILITY**	**RELATADO PÓS JOGOS**
To promote sustainable waste management	Maximise recycling and reuse during Games time	Amount of waste recycled or reused Vs. Total amount of non-organic waste generated during Games time	%	Games Time	18%
	Maximise the opportunity for cooperatives to benefit from collecting and selling recycled materials	All recyclable waste goes via the cooperatives	Yes or No	Games Time	Yes
	Maximise rent or reuse of overlay procured by Rio2016	Amount of overlay rented and returned to supplier Vs. Total amount of overlay	%	Games Time and Test Events	100%

SUSTAINABLE DESIGN & CONSTRUCTION					
GENERAL OBJECTIVE	**TARGET**	**KEY PERFORMANCE INDICATOR (KPI)**	**UNIT**	**APPLICABILITY**	**RELATADO PÓS JOGOS**
To reduce water consumption	% of new bathrooms procured by Rio 2016 with water efficient fixtures	Number of new bathrooms procured by Rio2016 with water efficient fixtures Vs. Total number of new bathrooms procured	%	Games Time	Quantification not possible
To reduce energy consumption	Maximise the use of equipment procured by Rio 2016 certified by PROCEL A	Number of PROCEL A certified equipment procured by Rio 2016 Vs. Total number of equipment procured by Rio 2016 for which PROCEL certificate is applicable	%	Games Time	98%
	Percentage of generators reduced from the baseline	Number of generators procured Vs. Estimated number of generators at NRG 2013 baseline	N	Games Time	Quantification not possible
	Percentage of electricity used Vs Estimated electricity baseline	Amount of electricity consumed Vs. Estimated electricity at NRG 2013 baseline	%	Games Time	106%
To reduce material consumption	Reduce the total venue footprint of Rio2016 operational areas	Overlay constructed area (OB6/2016) Vs overlay estimated area to be constructed in OB2/2013	N	Games Time	80% (approximate value)
		Footprint area of secure perimeters (OB6/2016) Vs estimated footprint area of OB2/2013	N	Games Time	No change
	Increase the recycled content within the new waste bins procured by Rio 2016 to minimise the use of raw materials	Amount of recycled content in new bins provided by suppliers	%	Games Time	100%

To reduce material consumption	Increase the recycled content within medals to minimise the use of raw metal materials	Amount of recycled content within silver medals Vs. Total amount of silver medals	%	Games Time	30%
	Increase the recycled content within medals to minimise the use of raw metal materials	Amount of recycled content within copper medals Vs. Total amount of copper medals	%	Games Time	100%
	Increase the recycled content within the torch to minimise the use of raw metal materials	Amount of recycled content within torch Vs. Total amount of material within the torch	%	Games Time	100%

To purchase sustainable materials	100% of gold sourced from mines which eliminated the use of mercury within the mining process	Amount of mercury free gold sourced for Medals Vs. Total amount of gold sourced for medals	%	Games Time	100%
	Maximise the reuse of materials for LOOK of the Games; post-Games analysing potential materials for LOOK from all materials in an RAQ template	Amount of LOOK material reused Vs. The total amount of material used. The analysis completed for LOOK materials	%	Games Time	100%
	100% of FSC and Cerflor certified wooden in new products	Amount of certified wood products Vs. Total amount of new wood products	%	Games Time and Test Events	100%

ENVIRONMENTAL CONSERVATION					
GENERAL OBJECTIVE	**TARGET**	**KEY PERFORMANCE INDICATOR (KPI)**	**UNIT**	**APPLICABILITY**	**RELATADO PÓS JOGOS**
To reduce impacts on Biodiversity	Reduce vegetation to be removed	Number of trees and vegetation removed according OB6/2016 Vs. Number of trees and vegetation estimated to be removed on OB2/2013	%	Games Time and Test Events	Quantification not possible
	Zero significant impacts on any protected areas by avoiding occupation within any designated/ protected areas of nature conservation	Number of significant incidents involving occupancy inside protected areas	%	Games Time and Test Events	0
	Zero significant incidents involving fauna on venues	Number of incidents involving fauna	N	Games Time and Test Events	0 significant incidents, 10 minor incidents with successful rescue of animals

SUSTAINABLE FOOD SOURCING					
GENERAL OBJECTIVE	**TARGET**	**KEY PERFORMANCE INDICATOR (KPI)**	**UNIT**	**APPLICABILITY**	**REPORTED AFTER GAMES**
To deliver a Sustainable Food Sourcing Programme which leads a strong sustainable legacy for Brazil	100% of catering suppliers to receive the Taste of the Games, sign the Sustainable Conduct Code and receive support on sustainable procurement and management	Amount of catering suppliers who received the Taste of the Games and signed the Sustainable Conduct Code Vs. Total amount of suppliers procured.	%	Games Time	100%
		Amount of catering suppliers who received support on sustainable procurement and management			100%
	Maximise fish procured from ASC or MSC certification sources	Amount of fish with ASC or MSC certification Vs. all fish purchased	N	Games Time (limited Test Event)	70 tonnes
	100% of beef sourced from farms that have sustainable practices and practice to zero deforestation	Quantity of producers that are signed up to sustainable practices and zero deforestation or are certified to a sustainable body Vs. Total quantity of beef procured	%	Games Time	100%
	Maximise the opportunity for local sustainable suppliers to showcase their products to the Rio 2016 athletes	Sustainable island included within the main dining hall at the athletes' village	Y/N	Games Time	No
	80% of kitchen oil collected and recycled (for biodiesel)	Amount of kitchen oil recycled Vs. Total amount of kitchen oil generated	%	Games Time	100%

SUSTAINABLE SUPPLY CHAIN					
GENERAL OBJECTIVE	**TARGET**	**KEY PERFORMANCE INDICATOR (KPI)**	**UNIT**	**APPLICABILITY (GAMES PERIOD / TEST EVENTS**	**REPORTED AFTER GAMES**
To implement a Sustainable Supply Chain Programme	100% signed Sustainable Code of Conduct received from suppliers	Amount of signed Sustainable Code of Conduct received from suppliers Vs. Total amount of suppliers	%	Games Time and Test Events	100%
	100% of signed ETI Codes received from suppliers	Amount of signed ETI Codes received from suppliers Vs. Total amount of suppliers	%	Games Time and Test Events	100%
To implement a Sustainable Supply Chain Programme	100% of High Risk Suppliers registered in SEDEX and with an updated audit (At least 6 months)	Amount of high risk suppliers registered in SEDEX and with an updated audit Vs. Total amount of High Risk Suppliers	%	Games Time and Test Events	100%
	100% of Licensees Register on SEDEX Global	Number of licensees registered in SEDEX and with an updated audit Vs. Total amount of licensees	%	Games Time	100%
	100% risk suppliers following the specifics requirements	Amount of risk suppliers that followed the requirements Vs. Total amount of risk suppliers	%	Games Time and Test Events	100%
	High product risk suppliers receiving a sustainable product guide	Quantity of guides published for high risk product categories Vs. Total amount of guides for high risk product categories	%	Games Time and Test Events	100%
	Percentage of small suppliers contracted	Percentage of small suppliers contracted Vs. All suppliers	%	Games Time and Test Events	38%

INVOLVEMENT & AWARENESS					
GENERAL OBJECTIVE	**TARGET**	**KEY PERFORMANCE INDICATOR (KPI)**	**UNIT**	**APPLICABILITY (GAMES PERIOD / TEST EVENTS**	**REPORTED AFTER GAMES**
To engage internal and external stakeholders on sustainability matters	Increase awareness of sustainability inside Rio 2016 operations	Number of staff trained in sustainability Vs. Total number of staff	%	Games Time and Test Events	100%
		Total number of accesses to SAL documents in Fonte do Conhecimento (Colaboração)	N	Games Time and Test Events	Quantification not possible
		Staff personally engaged with SAL matters in key functional areas (SAL perception survey) Vs total number of staff answering the survey	%	Games Time and Test Events	Quantification not possible
	Increase public awareness on sustainability matters	Number of accesses to sustainability page at Rio 2016 website	N	Games Time and Test Events	Quantification not possible
		Number of downloads of sustainability documents at Rio 2016 website			Quantification not possible

Envolver e engajar stakeholders externos	Increase public awareness on sustainability matters	Positive perception regarding sustainability legacy on Rio 2016 pool (tracking)			Quantification not possible
		Number of downloads of Green Passport app during Rio 2016 participation in the campaign	N	Games Time	1,262
		Number of Green Passport Facebook fans during Rio 2016 participation in the campaign			79,903
		Number of comments on Green Passport tweets during Rio 2016 participation in the campaign			174
	Regularly involve and engage relevant external NGOs on Rio 2016 operations	Number of external events with Rio 2016 participation regarding sustainability	N	Games Time and Test Events	240
		Number of NGOs which are involved in Rio 2016's sustainability operations and stakeholder dialogues	N	Games Time and Test Events	
To responsibly manage Rio 2016 operations	Reduce sustainability risks for Rio 2016 operations on venue	Number of venues that have completed risk assessments Vs. Total number of venues	%	Games Time and Test Events	100%
		Percentage of sensitive venues that have environmental assessment or other specific studies completed	%	Games Time and Test Events	100%

To be transparent and report on all Rio 2016 operations	Report Rio 2016 activities regarding sustainability openly and without bias	Number of sustainability reports or specific technical reports following recognized standards	N	Games Time and Test Events	2
	Create a specific sustainability website which is accessible for all audiences and updated regularly	Quantity of sustainability documents uploaded onto Rio 2016 sustainability website	N	Games Time and Test Events	124
		Quantity of sustainability news stories uploaded onto Rio 2016 sustainability website	N	Games Time and Test Events	42

8 Detailed Sustainability Reporting

FINAL OUTCOME [G4-1] [G4-EO5] [G4-EO11] [G4-LA13] [G4-LA1]

The objective of this section is to provide readers with detailed reporting on all material aspects, according to the GRI (Global Reporting Initiative) directives and the Event Organisers Sector Supplement.

General Standard Disclosures

Strategy and Analysis

[G4-1] Please refer to the "Final Outcome" sections of this report, the "On Your Marks" section of the Integrated Report (July 2016) and section 11 of the Board of Directors' Statute.

Organizational Profile

[G4-3] Please refer to section 1.1.

[G4-4] Please refer to section 1.3 of the Integrated Report (July 2016)

[G4-5] Rua da Assembleia, 10/ salas 2612, 2911 e 3211 – Centro. CEP: 20011-901 – Rio de Janeiro – RJ – Brasil

[G4-6] Please refer to section 1.3 of the Integrated Report (July 2016)

[G4-7] Please refer to section 1.2 of the Integrated Report (July 2016)

[G4-8] Please refer to section 1.3 of the Integrated Report (July 2016)

[G4-9] Please refer to chapter 6. For the 2015 data, please refer to sections 1.2 and 5.2 of the Integrated Report (July 2016). For the 2016 data, please wait for publication of the financial statements in 2017.

[G4-10] Please refer to chapter 6. Due to the life cycle of the Games and in accordance with their planning, there was a significant increase in the size of the workforce as the operational phase approached. Likewise, straight after the end, there was a considerable reduction in dismissals.

[G4-11] Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-12] Please refer to chapter 2. The Rio 2016 sustainable supply chain is divided among Licensees and Suppliers. The suppliers are divided into five categories: Operations, Sports Equipment, Temporary Facilities and Corporate. The Rio 2016 purchases schedule was defined and published in advance for the market, ensuring that it could prepare adequately to meet the large demand for goods and services.

SUPPLIER NATIONALITY	2016 (FROM JANUARY TO SEPTEMBER)
Brazil	800
Other countries	70
Total	870

[G4-13] Upon the end of the Games operational phase and the start of the dissolution phase, there was a considerable reduction in the total workforce and facilities. Therefore, Rio 2016 is now operating only the administrative headquarters, which has been transferred to a smaller space than that previously used.

[G4-14] Rio 2016 adopted the IOC Code of Ethics as well as its own Code of Ethics. Together they provided guidance on how officers and employees should avoid conflicts of interest, including gifts and gratuities, and define an anti-corruption code and an open communication policy, which encourages employees to report any non-compliance. Aspiring suppliers and licensees must also declare any known or potential conflict of interest, including personal or business relationships.

[G4-15] Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-16] The Rio 2016 Committee does not belong to any associations.

Identified material aspects and boundaries

[G4-17] The Rio 2016 Olympic and Paralympic Games Organising Committee is the only organisation included in the financial statements and covered by this report.

[G4-18] To define the content of the report, a study was conducted to identify the material aspects that reflect the economic, environmental and social importance of Rio 2016 or that influence the

stakeholders' decision making. These aspects were presented to and validated by stakeholders during a meeting that they attended in person. Once the material issues were defined and the core option of the GRI Directives selected, we identified the general and specific standard disclosures to be reported. Furthermore, we considered the specific level of transparency for event organizers. The reporting boundaries for each aspect were defined in accordance with the activities over which Rio 2016 has direct control and management.

[G4-19] The material aspects are: Economic Performance, Indirect Economic Impacts, Procurement/Sourcing Practices, Energy, Water, Biodiversity, Emissions, Effluents and Waste, Transport, Supplier Environmental Assessment, Training and Education, Diversity and Equal Opportunities, Equal Remuneration for Women and Men, Supplier Assessment for Labour Practices, Non-discrimination, Child Labour, Forced or Compulsory Labour, Safety Practices, Supplier Human Rights Assessment, Local Communities, Anti-Corruption, Supplier Assessment for Impacts on Society, Customer Health and Safety, Products and Services Labelling.

[G4-20] Please refer to section 9 of the Integrated Report (July 2016)

[G4-21] Please refer to section 9 of the Integrated Report (July 2016)

[G4-22] This report does not contain any restatements of information provided in previous reports.

[G4-23] There are no significant changes in relation to the Scope and Aspect Boundaries of periods covered by previous reports.

Stakeholder Engagement

[G4-24] Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-25] Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-26] Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-27] Please refer to section 8.2 of the Integrated Report (July 2016)

Report profile

[G4-28] Please refer to section 1.1

[G4-29] Previous report, covering activities developed in 2014 and 2015, published in July 2016.

[G4-30] The first sustainability report, covering activities developed in 2012 and 2013, was published in September 2014. The second was the Rio 2016 integrated report, which covered activities developed since 2015, published in July 2016. This, the final sustainability report, includes activities performed in 2016, including the Games period.

[G4-31] sustentabilidade@rio2016.com

[G4-32] See the back cover

[G4-29] Previous report, covering activities developed in 2014 and 2015, published in July 2016.

Governance

[G4-34] Please refer to section 1.2 of the Integrated Report (July 2016)

Ethics and Integrity

[G4-56] Please refer to section 3.1 of the Integrated Report (July 2016)

Specific Standard Disclosures

Economic Performance

[G4- DMA]

Why it is material: The revenues, costs and investment of a mega event are issues that always generate public debate. Therefore, it is essential to treat the economic performance in a transparent and responsible manner.

How we manage: Please refer to section 4.1 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 4.1 of the Integrated Report (July 2016)

[G4-EC1] Please refer to section 4.2 of the Integrated Report (July 2016) The complete financial data for 2016 will be published after approval of the financial statements in 2017.

[G4-EC4] As a not-for-profit institution, Rio 2016 is exempt from the payment of income tax (IRPJ) and social contribution on net earnings (CSLL), pursuant to article 10 of law 12.780/13. In accordance with article 14 of Provisional Measure 2.158-35 of 24 August 2001, Rio 2016 is exempt from COFINS tax on revenues generated from its own activities. This benefit does not extend to revenues generated from other activities unrelated to Rio 2016's purpose, even if such revenues are used to subsidise the core business. Furthermore, the enactment of Federal Law 12,780 on 9 January 2013 ensured exemption from federal taxes on imports, employer social security (INSS and PIS) contributions, as well as local purchases of products and services for all the operations involving the Olympic and Paralympic Games. As regards the process of state and municipal tax exemption, one can highlight the publication of ICMS Agreement 133 on 5 December 2008, permitting all states to grant exemption from ICMS (value added tax on goods and services), and Rio de Janeiro Municipal Law 5,230 of 25 November 2010, granting exemption from ISS (service tax) on services provided to the Olympic and Paralympic family.

Indirect Economic Impacts

[G4- DMA]

Why it is material: 2016 provided an enormous boost to the city of Rio in job creation (85,000 jobs in civil construction alone) and professional qualification through programmes developed with partners. Throughout Brazil, suppliers felt the positive impact of the Sustainable Supply Chain Programme, which stimulated improvement and competitiveness among companies that supplied 30 million procured or contracted items.

How we manage: Please refer to section 4.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 4.2 of the Integrated Report (July 2016)

[G4-EC18] Please refer to chapter 2 of this report and section 4.2 of the Integrated Report (July 2016).

Procurement Practices

[G4- DMA]

Why it is material: The Sustainable Supply Chain is one of the main legacies of the Rio 2016 Games. Through its purchasing power, Rio 2016 aims to encourage a positive transformation by adopting sustainable procurement criteria.

How we manage: Please refer to section 4.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 4.2 of the Integrated Report (July 2016)

[G4-EC9] Please refer to chapter 2.

[G4-EO9] Please refer to section 4.2 of the Integrated Report (July 2016)

The Procurement Policy (Sustainable Supply Chain Guide, requirements and sustainability guides, Declaration of Sustainable Conduct, technical assessment, etc.) took the following aspects into account, among others: guidelines and initiatives from the Ethical Trading Initiative (ETI), Sustainability guidelines from the Global Reporting Initiative (GRI), requirements for the Carbon Footprint (CDP/GHG Protocol), national, state and city legislation, requirements from the Sustainable Purchasing Manual of the Brazilian Business Council for Sustainable Development -

CEBDS, and ISO, ABNT, PROCEL and ISE standards.

[G4-EO10] Please refer to section 3.1 of the Integrated Report (July 2016)

Rio 2016 uses ethical criteria in the selection of new employees through the Human Resources area, in order to avoid unequal privileges. In addition, the Purchasing Policy establishes a highly competitive process for hiring suppliers in order to ensure equality in the selection process among potential competitors.

Overall

[G4-EO1] Please refer to sections 4.2 and 6.2 of the Integrated Report (July 2016)

Energy

[G4-DMA]

Why it is material: The Brazilian energy industry went through a critical supply phase in 2014 and 2015 and there is a large-scale energy demand for the Rio 2016 Games. As in any event, the energy power from the grid is not sufficient, requiring the use of alternative sources when the legacy does not justify investment in permanent infrastructure. Rio 2016 worked in this regard, seeking to improve energy efficiency, reduce energy demand and therefore reduce GHG emissions.

How we manage: Please refer to chapters 4 and 7 of this report and section 6.2 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to chapter 7 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN3] Please refer to chapter 4

[G4-EN4] Not consolidated by the time of publication of this report

[G4-EN6] Please refer to chapter 4

Water

[G4 – DMA]

Why it is material: Besides the intensive use of water resources in the accommodation areas, toilets and restaurants, Rio 2016 was concerned about the water quality in the competition venues to ensure top conditions for all athletes

How we manage: Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to chapter 7 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN8] Please refer to chapter 4

[G4-EN10] Please refer to chapter 4

Biodiversity

[G4-DMA]
Why it is material: Please refer to section 6.2 of the Integrated Report (July 2016)

How we manage: Please refer to chapter 7 of this report and section 6.2 11 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to chapter 7 of this report and section 6.2 11 of the Integrated Report (July 2016).

[G4-EN12] Please refer to chapter 6 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN13] Please refer to sections 5.2 and 6.2 of the Integrated Report (July 2016).

Emissions

[G4- DMA]
Why it is material: Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

How we manage: Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN15] Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN16] Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN17] Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN18] Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN19] Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

[G4-EN20] Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

Effluents and Waste

[G4 – DMA]

Why it is material: The effort to manage waste responsibly was a commitment made by Rio 2016 and passed on to all suppliers and contractors by means of waste management requirements.

How we manage: Please refer to chapter 4.

Evaluation of the management approach: Please refer to chapter 4.

[G4-EN23] Please refer to chapter 4

Final Destination of Waste (absolute numbers)

	Waste (in tonnes)			
	2013	**2014**	**2015**	**2016**
Cooperatives	2.3	5.19	348.70	1100
Landfill	4.17	15.70	73.3	5134
Incineration	0	0.0005	0.003	3.68

Note: Includes all waste in all facilities.

The waste disposal method considers the principles of the National Policy on Solid Waste.

Transport

[G4-DMA]

Why it is material: Transport is one of the aspects which affects different dimensions of Rio 2016, and is responsible for much of its greenhouse gas emissions. That is why we defined a specific sustainability strategy for transport.

How we manage: Please refer to chapter 4 of this report and sections 6.2 and 11 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to chapters 4 and 7 of this report and sections 6.2 and 11 of the Integrated Report (July 2016).

[G4-EN30] Please refer to chapter 4 of this report and section 6.2 of the Integrated Report (July 2016).

Suppliers hired to provide transport services should present low emissions test certificates (opacimeter measurement of particulate emissions).

Environmental and socioeconomic criteria used to determine the most significant transport impacts were based on studies by ITDP, FETRANSPOR, Rio Ônibus, C40 and London 2012 Olympic and Paralympic Games, and were jointly created by the areas of

Sustainability, Transport and City Liaison.

[G4-EO2] Please refer to section 6.2 of the Integrated Report (July 2016)

[G4-EO3] Please refer to section 6.2 of the Integrated Report (July 2016)

Environmental Assessment of Suppliers

[G4-DMA]

Why it is material: Please refer to section 4.2 of the Integrated Report (July 2016)

How we manage: Please refer to section 4.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 4.2 of the Integrated Report (July 2016)

[G4-EN32]

Porcentagem de novos fornecedores e licenciados avaliados com critérios ambientais detalhados:

	2016 (up to September)
New suppliers	85%
New licensees	100%

[G4-EN33] All procurement categories were evaluated regarding environmental impact materiality. Those categories identified as highly material are specifically invited to register with the Supplier Ethical Data Exchange (Sedex Global). They are also required to carry out an audit in accordance with the best practice guide of the Sedex Members Ethical Trade Audit (SMETA). Suppliers who failed to pass the audit on highly critical matters were not hired. Additionally, during the contract term, whenever situations of risk or non-compliance were identified, through audit or third-party complaints, the supplier must remedy them as required.
During the reported period, 100 per cent of suppliers and licensees identified as having significant actual or potential negative environmental impacts as a result of assessment agreed to carry out improvements. No business relationships were terminated as a result of the assessments.

Employment

Although employment was not considered material by stakeholders during materiality exercises, it was considered relevant by Rio 2016 management, and was therefore reported.

[G4-LA1] Please refer to chapter 6.

Number of employees per region (football cities):

Region	Olympic Games Period	Paralympic Games Period
Rio de Janeiro	5356	4229
São Paulo	104	26
Belo Horizonte	74	20
Salvador	53	15
Brasília	60	18
Manaus	45	15

Workforce numbers by gender and age group:

Gender	**Men**		**Women**	
Age group	Olympic Games Period	Paralympic Games Period	Olympic Games Period	Paralympic Games Period
Employees under 30 years old	960	606	1032	674
Employees 30-50 years old	1653	1355	1517	1322
Employees over 50 years old	379	254	151	112
Total employees	2.992	2.215	2.700	2.108

Volunteers	**Numbers**
Men	17,779
Women	21,729
Volunteers under 34 years old	16,593
Volunteers 34-59 years old	18,173
Volunteers over 60 years old	4,742

Training and Education

[G4-DMA]

Why it is material: Please refer to section 8.2 of the Integrated Report (July 2016)

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July 2016)

[GA4-LA9] Number of hours of training taken by the workforce, by type:

	Paid employees	Volunteers
	2016 (up to September)	
Live training	23,100	160,065
E-learning (all)	74,064	914,980
Specific e-learning on sustainability and accessibility	1,373	22,209

[G4-LA10] All employees were offered career transition guidance to help them return to the job market following Rio 2016 activities. A partner company was responsible for organizing the seminars and career guidance workshops. This programme began in January 2016.

Diversity and Equal Opportunities

[G4-DMA]

Why it is material: One of Rio 2016's commitments was to carry out a Games for everyone, including minorities.

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-LA12] Percentage of individuals within the organization's governance bodies in each of the following diversity categories:

	Men (%)	Women (%)	Under 30 years old (%)	35-50 years old (%)	Over 50 years old (%)	Black (%)
2016 (up to September)						
Executive officers	83%	17%	0%	50%	50%	33%
Officers	67%	33%	0%	70%	30%	11%

Equal Remuneration for Women and Men

[G4-DMA]

Why it is material: It is one of the pillars of the Rio 2016 Remuneration Policy, a way to ensure equality and competitiveness among professionals and a fair working environment.

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-LA13] Please refer to chapter 6

Supplier Assessment for Labour Practices

[G4-DMA]

Why it is material: Please refer to section 4.2 of the Integrated Report (July 2016)

How we manage: Please refer to section 4.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 4.2 of the Integrated Report (July 2016)

[G4-LA14] Please refer to section 8.2 of the Integrated Report (July 2016)

Total number of new suppliers and contracted licensees

	2016 (up to September)
Suppliers	870
Licensees	10

Porcentagem de novos fornecedores e licenciados avaliados com critérios detalhados de práticas trabalhistas:

	2016 (up to September)
Suppliers	85%
Licensees	100%

Non-Discrimination

[G4-DMA]

Why it is material: Rio 2016 worked to create a diverse and inclusive environment and therefore non-discrimination is an extremely important value. Furthermore, the Olympic and Paralympic Games favour bringing different cultures together and non-discrimination is fundamental in creating such an environment of socialisation.

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July 2016)

[G4-HR3]
Total number of incidents of discrimination and measures taken:

	2016 (up to September)
Total number of incidents	7
Total number of incidents reviewed by the Rio 2016 Committee	7
Number of remediation plans implemented	7
Number of remediation plans implemented and their results reviewed through routine internal management review processes	4
Incidents which are no longer subject to corrective measures	3

Child Labour

[G4-DMA]
Why it is material: Rio 2016 rejects any form of child labour, including in its supply chain. This stance is directly related to the commitment made by Rio 2016 to respect human rights.

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July 2016).

[G4-HR5]
Supplier operations identified as being at risk for the occurrence of:

	2016 (up to September)
Child labour	20 suppliers
Young workers exposed to hazardous activities	8 licensees
	Not identified

[G4-HR5]
Countries where suppliers and licensees identified as being at risk have operations:

2016
Licensees (by factory): 7 China, 1 Brazil
Suppliers (by factory): 20 Brazil

All potential suppliers must sign the "Declaration of Sustainable Conduct," which features an item on the "non-use of labour, child labour," according to the precepts of the ETI Code. All suppliers must "accept" and follow all the requirements of the Sustainable Supply Chain Guide, which contains an item on the rejection of child labour in factories.

Forced or Compulsory Labour

[G4-DMA]
Why it is material: Rio 2016 rejects any form of forced or compulsory labour, including in its supply chain. This stance is directly related to the commitment made by Rio 2016 to respect human rights.

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July 2016).

[G4-HR6]
Supplier operations identified as being at risk for the occurrence of:

	2016 (up to September)
Forced or Compulsory Labour	20 suppliers 8 licensees

Countries where suppliers and licensees identified as being at risk have operations:

2016

Licensees (by factory): 7 China, 1 Brazil
Suppliers (by factory): 20 Brazil

All potential suppliers must sign the "Declaration of Sustainable Conduct," which features an item on the "non-use of slave labour," according to the precepts of the ETI Code. All suppliers must "accept" and follow all the requirements of the Sustainable Supply Chain Guide, which contains an item about the rejection of forced or compulsory labour in factories. All supplier categories which carry a potential risk of forced or compulsory labour are checked against the SERASA "slave labour black list". In cases of potential risk, suppliers and licensees must undergo an audit based on SMETA methodology.

During the production process, high risk suppliers and licensees must monitor production, analysing their sustainability and quality processes.

Security Practices

[G4-DMA]

Why it is material: This is a key requirement to ensure a peaceful celebration and minimise unforeseen happenings.

How we manage: There is a specific functional area responsible for Games security. Those responsible for security at competition and non-competition venues are supported by private security guards qualified for mega-events and professional civilian fire-fighters (private fire-fighters).

Evaluation of the management approach: The test events help in verifying the effectiveness of planned actions and identifying possible security issues before the Games.

[G4-HR7] During 2016, the total number of security personnel hired directly for Rio 2016 was 174. All received formal training in human rights. Independent organizations that provided security personnel also received this type of training.

Supplier Human Rights Assessment

[G4-DMA]

Why it is material: Please refer to section 4.2 of the Integrated Report (July 2016)

How we manage: Please refer to section 4.2 of the Integrated Report (July 2016)

Evaluation of the management approach: Please refer to section 4.2 of the Integrated Report (July 2016)

[G4-HR10]

Percentage of new suppliers and licensees assessed using detailed human rights criteria::

	2016 (up to September)
Suppliers	85%
Licensees	100%

[G4-HR11] 100 per cent of suppliers and licensees identified as presenting actual or potential negative impacts on human rights agreed to carry out improvements as a result of the assessment. No business relationships were terminated as a result of the assessments.

Local communities

[G4-DMA]

Why it is material: Local communities are positively and negatively impacted by the Games. That is why Rio 2016 held meetings with community leaders to understand their interests and expectations and develop a specific strategy to minimize the negative impacts and maximize the benefits that the Games operations can bring to local communities.

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July

2016).

[G4-SO1] Please refer to section 8.2 of the Integrated Report (July 2016.

[G4-EO4] Please refer to sections 6.2 and 8.2 of the Integrated Report (July 2016).

Anti-Corruption

[G4-DMA]

Why it is material: This issue attracts a great deal of attention when any major event is held. That is why Rio 2016 is committed to working with transparency and fighting corruption through its policies and training.

How we manage: Please refer to section 3.1 of the Integrated Report (July 2016).

Evaluation the management approach of: Please refer to section 3.1 of the Integrated Report (July 2016).

[G4-SO4]

Percentage of governing board members, employees and business partners who received training in the organization's anti-corruption policies and procedures:

	2016
Governing board members	100%
Employees	100%
Volunteers	100%
Partners	N/A
Contractors (security, cleaning, catering, waste)	N/A

Anti-bribery training for employees and volunteers was administered via two methods:
Live training: The training was conducted by the Compliance area for all Compliance Managers, aimed at disseminating knowledge about risks and incidents, and ensuring the effectiveness of these controls so that they could pass on the knowledge to all staff in their respective functional areas.
Online training: Online course provided by Rio2016 to all staff.

Porcentagem de funcionários, voluntários e mão de obra contratada que receberam treinamento sobre proteção à informação confidencial:

	2016
Employees	100%
Volunteers	100%
Contractors (security, cleaning, catering, waste)	N/A

[G4-SO5] There were no registered incidents of internal corruption in Rio 2016, nor any contracts

with commercial partners that could result in termination or non-renewal. The "Contact Us" communication channel for complaints or reporting concerns can be accessed via the website www.rio2016.com, the Intranet, or the complaints form available from Compliance Managers and/or the Compliance Board.

Supplier Assessment for Impacts on Society

[G4-DMA]

Why it is material: Please refer to section 4.2 of the Integrated Report (July 2016).

How we manage: Please refer to section 4.2 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to section 4.2 of the Integrated Report (July 2016).

[G4-SO9]

Percentage of new suppliers selected based on detailed criteria relating to impacts on society:

	2016 (up to September)
Suppliers	85%
Licensees	100%

[G4-SO10] There was no impact on society identified in the supply chain.

Social Inclusion

[G4-DMA]

Why it is material: The social inclusion initiative can be found in all Rio 2016 strategies. The objective of the Rio 2016 Games applies to everyone, from planning through to execution.

How we manage: Please refer to section 8.2 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to section 8.2 of the Integrated Report (July 2016).

[G4-EO5] Please refer to chapters 4 and 6.

All information concerning initiatives to make the Rio 2016 Olympic and Paralympic Games more inclusive are available on the Rio 2016 website. Rio 2016 aims to showcase the diversity of the people who live out the Olympic and Paralympic values on a daily basis and reinforce a thriving, conscious and sustainable culture. We therefore have no analysis process capable of preventing exclusion issues. Our focus is on taking action for the inclusion of minority groups and diversity in general, for example by forging partnerships with NGOs to dialogue with civil society, government and public and private partnerships (SPM/PR, SEPPIR, Integrare, CEPPIR, CEERT, ANDEF, CVI, ICAS, etc.). We also developed an Inclusion Policy for suppliers and contractors.

[G4-EO6] Please refer to chapters 4 and 6.

All plans, policies, evacuation and contingency procedures took into account specific aspects

related to people with reduced mobility. Training was administered on the specific procedures, both for fire-fighters and other professionals who were to work with public safety and in the venues.

We trained staff to welcome people with disabilities, including guidance on specific signage and removal procedures (for example, evacuation chairs). The process that defined the main target groups that could encounter difficulties in accessing the events was developed based on IBGE surveys (PNAD), the Department for the Promotion of Women, the Department for Policies and Promotion of Racial Equality, the Instituto Ethos and other sources.

An online accessibility training course was made available to employees and volunteers.

Before each test event and the Games period, training was held (VST – Venue Specific Training) for the entire workforce on the specific accessibility features of each venue.

The qualitative impact of these initiatives was notable. We had a team and partners who were more engaged in accessibility issues and, above all, gained a new perception of people with disabilities.

Accessibility information related to tickets, such as exclusive sales channels, special seats and specific services was given at www.rio2016.com/ingressos. The Rio 2016 Ticket Customer Relations call centre was also qualified to provide any information about accessibility.

Customer Health and Safety

[G4-DMA]

Why it is material: Ensuring top conditions for spectators to enjoy the Game is part of the commitment to deliver an excellent Games with memorable celebrations.

How we manage: The Health and Safety functional area monitored potential risks ensuring compliance with all requirements established by Brazilian regulations.

We also conducted several training courses on maintaining occupational safety for all, such as emergency, fire and panic simulation exercises.

Evaluation of the management approach: Through accident and incident indicators.

[G4-EO7]
Cases of incidents, accidents and deaths by type of client:

	2016 (up to September)		
	Reported incidents	**Accidents**	**Deaths**
Employees	-	-	0
Pioneer volunteers (HQ)	-	-	0
Games volunteers	-	-	0
Test event volunteers	-	-	0
Athletes	-	-	1
Suppliers and contractors	-	-	0
Olympic and Paralympic family	-	-	0
Spectators	-	-	0
Contractors	-	-	0
TOTAL	**929***	**37***	**1**

** The Risk Management area records the number of incidents by means of the Reporting Card available at all test events and during the Games period. Therefore, the total number may not be reliable or identify victims.*
**Data from the Health and Safety area, which keeps records of employee, volunteer and contractor accidents. At the time of publishing this report no final compilation of accidents involving other clients had been made.*

The only death reported during the Rio 2016 Games was that of Iranian Paralympic athlete Bahman Golbarnezhad, who died during the road cycling event.

Product and Service Labelling

[G4-DMA]
Why it is material: Ticket sales is a key aspect of participation in the Games.

How we manage: We have a specific functional area (Ticketing) responsible for this. All information related to ticket sales was announced in advance and in an accessible way.

Avaliação da abordagem gerencial: Veja o website www.rio2016.com/ingressos

[G4-PR3]
Todas as regulações e códigos relativos a área de Ticketing estavam de acordo com a legislação brasileira em vigor, assim como as dos países onde houve venda de ingressos. Essas regulações e códigos foram validados pelo departamento Jurídico do Rio 2016, com a aprovação e revisão dos departamentos Jurídico e de Ticketing do COI. A área Jurídica do Rio 2016 consultou ainda a validade desses documentos com escritórios de advocacia especializados no Brasil e Europa. Comitês Olímpicos nacionais ratificaram a validade das regulações de vendas de ingressos em seus respectivos territórios. Todos os procedimentos, regras, condições de uso, disponibilidade, política interna e outras informações sobre ingressos do Rio 2016 foram publicadas em www.rio2016.com/ingressos. A transparência no processo de vendas foi garantida por auditoria independente realizada na fase dos sorteios e todos os resultados puderam ser conferidos simultaneamente por usuários acessando suas contas. Na fase de vendas online, as compras puderam ser checadas imediatamente na conta de cada usuário. O Programa de Ingressos foi compartilhado com diversas agências governamentais e entidades de proteção ao consumidor para garantir justiça, transparência e acessibilidade.

Customer Privacy

[G4-DMA]
Why it is material: Customer privacy is directly related to the security of the personal data provided when tickets are bought on the website.

How we manage: One of the Rio 2016 priorities is to use the best solution for tickets sales, in order to ensure all the security needed.

Evaluation of the management approach: Absence of client complaints or system violation.

[G4-PR8] There were no reports or external notifications of cases of substantiated complaints regarding breaches of customer privacy or loss of customer data.

Food and Beverages

[G4-DMA]
Why it is material: The food and drink logistics for the Games is the largest in the world during peacetime.

How we manage: Please refer to chapter 7 of this report and sections 6.2, 11.1 and 11.2 of the Integrated Report (July 2016).

Evaluation of the management approach: Please refer to chapter 7 of this report and sections 6.2, 11.1 and 11.2 of the Integrated Report (July 2016).

[G4-EO8] Please refer to chapter 7.
During the test events and the Games period, potable water was provided through bottles for athletes, individual squeeze packs for the workforce and drinking fountains for spectators.

To ensure healthy and safe food and beverages, Rio 2016 had a specific team dedicated to food safety. We also worked with the State inspection agency (Subvisa Alimentos) to perform regular inspections of our suppliers.

Legacy

[G4-DMA]

Why it is material: The positive legacy can be found in the Rio 2016 Games from the bid commitment to all strategies developed by Rio 2016.

How we manage: Rio 2016 developed projects to ensure the legacy in several ways: physical and technological, exchange of knowledge and best practices, and sustainability initiatives to raise awareness, share knowledge and encourage behavioural changes.

Evaluation of the management approach: Legacy aspects of each Games operation are taken into consideration at all stages of their life cycle management. Therefore, the legacy is managed in tandem with operations by each responsible functional area.

[G4-EO11] Please refer to chapters 2, 3, 4, 5, 6..
The staff training and development course of Rio 2016 had the following objectives:

• Prepare employees, volunteers and contractors to perform their roles to a high level during the Rio 2016 Games

• Ensure an enriching learning experience for all

• Throughout the training, to engage the workforce in a unique experience, providing the necessary skills and information and encouraging positive attitudes toward the operation and the legacy of the Rio 2016 Games.

Activities undertaken by the Rio 2016 Committee to deliver a sustainable Games were shared with the organising committees of the future Pyeongchang 2018 and Tokyo 2020 Games during the Observer Programme. They were also published in the pre-Games Integrated Report, made publicly available on the Rio 2016 website (rio2016.com/sustentabilidade).

During the Games we had a space dedicated to publicising our sustainability actions to the accredited media inside the MPC (Main Press Centre) building. Called the Sustainability Lounge, this space had a special schedule to address the Games' major sustainability themes with the participation of partners.

[G4-EO12]
In 2016 during the test events and the Games period, the main knowledge transfer activity occurred through the Observer Programme. Through this programme, representatives of the Tokyo 2020 and Pyeongchang 2018 organizing committees.

In the Rio 2016 dissolution process, all functional areas were required to draw up a Knowledge Report. This report, which had already been produced periodically by each area, contains a list of essential information for the organizing committees of the future editions of the Games, such as lessons learned, main numbers, budget, activities developed, and other points.

[G4-EO13] Please refer to chapter 2.

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